ATLANTIC LOTTERY CORPORATION
VL RESPONSIBLE GAMING FEATURES RESEARCH
FINAL REPORT - OCTOBER 2002

EXECUTIVE SUMMARY
PREPARED BY FOCAL RESEARCH CONSULTANTS LTD.

Executive Summary

The results of the Nova Scotia Video Lottery Responsible Gaming Features Research provide compelling evidence of the potential of machine based interventions as part of an integrated responsible gaming strategy for video lottery gaming.

NS VL Responsible Gaming Features Research

In December 2000, the Nova Scotia Gaming Corporation (NSGC) announced that it would be replacing 3,200 video lottery terminals (VLTs) with new or modified machines. Responsible gaming features designed to discourage excessive play were integrated in the design of the terminals. The features were developed after research and consultation with problem gambling experts (Dr. Harold Wynne and Dr. Howard Schaffer), video lottery manufacturers and player focus groups. Nova Scotia was the first jurisdiction in North America to introduce this package of four responsible gaming features (RGFs) on VLTs.

"The responsible gaming features [on the new video lottery terminals] are a first in North America and are intended to help discourage excessive play. They are designed to provide important reality checks and interruptions alerting players to the amount of time [and money] being spent during a specific play session." RFP Addendum, May 17, 2001

In May 2001, NSGC, through the Atlantic Lottery Corporation (ALC), began introducing the new VLTs in various sites across Nova Scotia. This initiated the first of three phases comprising the VLT Replacement Plan scheduled to occur over a two-year period. The Introductory Phase took place from May 2001 to January 2002, during which time 1,000 new model terminals and approximately 400 upgraded older model terminals were rolled-out in specific retailer locations throughout the province.

The changes introduced to the machines included new games and improved graphics, the addition of a bill acceptor and four responsible gaming features intended to assist players in managing the amount of time and money spent while playing the games. The RGFs are comprised of:

- a permanent on-screen clock denoting time-of-day;
- a display of betting activity in cash amounts rather than credits;
- pop-up reminders of time spent playing after 60, 90 and 120 minutes of continuous play; and;

- a 5-minute cash out warning at 145 minutes of continuous play and mandatory cash out at 150 minutes.

These modifications include two constant features that all players would be exposed to during play on the new terminals, an on-screen clock and the display of betting activity in the form of cash rather than credits. The others are behaviour-triggered features comprised of pop-up messages and a mandatory cash out that are only activated if a player meets a certain threshold for continuous play (i.e., pop-up reminders at 60, 90 and 120 minutes, mandatory cash out warning at 145 minutes, cash out at 150 minutes.)

The responsible gaming features on the new and modified terminals in Nova Scotia are intended to assist players in managing time and money spent while they are taking part in the activity. These features were chosen based on two premises – creating breaks in play and providing important reality checks for the player. Specifically, the features are designed to target those individuals involved in excessive play (dollars and time spent beyond desired and/or affordable levels) while having a minimal impact for those players taking part at "responsible" or low risk levels.

Research Objectives:

An important component of the VLT Replacement Plan was an evaluation of the impact of the RGFs during the introductory period of the new terminals to:

- assess awareness of and exposure to the features;
- determine the effect of the RGFs on player behaviours, perceptions and attitudes;
- identify, what, if any, changes or improvements are recommended to enhance the effectiveness of the features in mediating excessive play.

Focal Research was awarded the project based on a comprehensive research plan to address the information requirements of this challenging and leading edge study.

VL RGF RESEARCH - PURPOSE

- Assess awareness & exposure
- Determine effectiveness
- Identify potential improvements

Research Design:

The design for the study consisted of both qualitative and quantitative research.

Qualitative Research – Preliminary Product Response Phase

The Preliminary Product Response Phase was comprised of three components; observation of controlled play sessions, focus groups with Regular VL Players, and one-on-one interviews all conducted during May 2001. The qualitative phase of the research was considered an integral part of the overall process. There were many unknowns leading into the quantitative phase of the research about how players would interact with the RGFs. Therefore, preliminary information obtained during the qualitative phase of the research was critical as input to the design of the quantitative stage of the research.

RESEARCH PROCESS

QUALITATIVE (May 2001)
- Observed Play (22)
- Focus Groups (4)
- One-on-one interviews (12)

QUANTITATIVE
- Pre-test (May '01)
- On-site Intercepts(May '01)
- Pre Survey (June '01)
- Post 1 Survey (Sept '01)
- Post 2 Survey (Nov '01)
- Post 3 Survey (Feb '02)
- Analysis (March – Aug '02)

In total, four focus groups were undertaken, two with Non-Problem Regular VL Players and two with Resolved and Current Problem Players, comprising 22 participants overall. Over a two-hour period, participants were observed playing on six of the new terminals set-up on-site at Focal Research. Following play of the new machines all participants then took part in in-depth discussion groups surrounding: initial reactions to the new terminals, reactions to each RGF, influence on perceptions, attitudes and play behaviours, influence on excessive play. The information obtained was used to develop the questionnaire and refine research design in preparation for the pre-test and quantitative phase of the research.

The first draft outline of the questionnaire was tested in 12 one-on-one personal interviews. Versions 1 to 5 of the draft questionnaire were pre-tested and analyzed before the final survey was produced for data collection (n=63).

Quantitative Research – Pre /Post Return to Sample Design

To address the information objectives of the study a pre/post return to sample methodology was adopted. This approach consisted of obtaining a baseline measure of responses for comparison to post measures following the introduction of the new terminals.

In May 2001, VL players were intercepted on-site at 81 qualified VL locations in select communities throughout the province and recontacted by telephone to screen for eligibility. Participation was restricted to permanent residents of Nova Scotia, age 19 years or older, who played VL games at least once a month or more at eligible locations. The detailed play behaviours, attitudes and perceptions for 164 qualified regular VL players were benchmarked in June 2001 and tracked in three follow-up surveys at approximately two-month intervals during the course of the introductory period for the new terminals. The overall response rate for the study was 69.2% with a drop off rate of 30.8% over the four waves of the study. The data was examined for total players and by adoption of regular play on the new terminals (Adopters versus Non-Adopters) as well as risk for problem gambling (CPGI: No Risk, Low Risk, Moderate Risk and Problem Play).

Play of New Terminals:[1]

Type of Player	Description	Sample Size	% of Players (n=164)
Adopter	In the final Post 3 Survey (Feb '02) played mainly on the new terminals (75%+ of times played in last month)	75	46%
Non-Adopter	In final Post 3 Survey continued to play mainly on the older model terminals	89	54%

Risk for Problem Play (Canadian Problem Gambling Index –CPGI)

Player Status (based on CPGI classification)	CPGI Score	Sample Size	% of Players
No Risk	0	47	29%
Low Risk	1-2	48	29%
Moderate Risk	3-7	39	24%
Problem Player	8+	30	18%

Limitations:

As with all studies, limitations arise due to the circumstances around live market testing, as well as the testing effects that occur, regardless of the method used, when live subjects provide information on their attitudes and behaviours. Recognition of these factors at both the design and analysis stages of the project ensure that appropriate decisions are made to optimize the validity and reliability of the data.

Readers are referred to Section 1 of the Final Report for full discussion of the research design, rationale, methodology, and analysis of results. Rigorous attention to detail was undertaken at all phases of the research process with appropriate measures instituted to control for various factors potentially influencing results including; questionnaire design, regression effect, novelty effect, multi-collinearity, accuracy of self-reported behaviours and sampling biases.

In evaluating the summary of findings presented in the current document, readers are cautioned that the impact analysis is based on an evaluation of those players who voluntarily switched play to the new terminals. These players represented the "Test Group" in the current study and differed from those players who continued to play mainly on the older model terminals (Control Group). Thus, there is uncertainty as to the response of players in general once the option to play on the old terminals is no longer available. Regardless the findings provide valuable information about specific player response to the RGFs and how players, in general, respond to video lottery gaming that previously was unknown.

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[1] On average Adopters played the new terminals 98% of the total times played in the last month versus only 21% of total times played by the Non-Adopters.

Results:

Key Findings Associated with play on the New Terminals:

KEY CHANGES ASSOCIATED WITH PLAY ON NEW TERMINALS

- Reduction in session length
- Improvements in tracking time and money spent
- Improvements in staying within desired time and money limits
- Increase in rate of expenditure on new machines (faster speed of expenditure)

- ***Reductions in specific behaviours associated with increased risk for problem gambling***

Following the introduction of the new machines, on average, the percent of times players reported losing track of time and money, or played beyond desired time limits declined for all players, but most strongly among those taking up regular play on the new terminals (Adopters).

As well, for Adopters there was a significant decline in the average percent of time they reported spending more money than they wanted (63% to 50%, t=2.820, p=.006). "Overspending" did not change in any of the other player groups.

- ***Reduction in session length (i.e. amount of time spent playing)***

There was a significant decline in session length associated with play on the new terminals over the course of the study (≈135 minutes to ≈116 minutes, t=1.972 p=.056). On average, those players who had adopted play on the new terminals (Post 3 Survey, Feb 2002), reported shorter session lengths as compared to their length of play during the Pre Survey measures in June 2001.

- ***Expenditure remained stable***

Despite a reduction in the amount of time spent playing on the new terminals there were no significant changes in the average amount of money spent each time played, within any of the player groups or at a total level. Expenditure estimates based on monthly behaviour remained stable over all waves of the study.

- ***Change in Rate of Expenditure***

On a machine basis, not a per player basis there was an increase observed in the rate of expenditure (amount spent per minute) and, consequently, an overall increase in revenue associated with the introduction of the new terminals is expected.

When the combined results for time and money spent were examined, it became clear that there was an overall increase in the amount of money spent per minute among plays on the new terminals. This means that the rate of expenditure was higher on the new machines than on the older terminals. This increase is related to potential changes in the way the new machines are played, causing players to spend at different rates while gambling, thus affecting both expenditure per session and length of session.

- ***Stability of play behaviours that have implications for exposure to and use of RGFs***

There were some play behaviours that appeared to be fairly entrenched and remained highly stable over all waves of the study. Some of these behaviours, in particular, cashing out and continuing to play, running credits down to zero before putting in more money and chasing losses, have implications for risks for problem gambling and exposure to the new RGFs.

These behaviours will either reset the internal clock for the pop-up reminders (cashing out, running credits to zero) thus, precluding exposure to the message or, in the case of extended continuous play, may override the effectiveness of any messages in motivating stopping (e.g., the influence of chasing behaviour or winning in extending the play session).

- ***The new terminals tended to attract those players who were already more involved in VL play prior to the introduction of the new machines, but were equally likely to be have been adopted by players at Low, Moderate or High risk for problem gambling. Only those at no risk were less likely to have taken up play on the new machines.***

Trial of the new terminals was high among all participants (84%). However, those who, at the end of the trial period, were playing most often on the new terminals (Adopters), tended to have been playing more frequently and spending more time and money on video lottery before the new terminals were introduced.

Adopters were also more inclined at the start of the trial period to be spending beyond desired time and money limits, and more often lost track of time or money as compared to those that continued to play mainly on the older models. This suggests that simply introducing new terminals will likely attract those who are most likely to derive benefit from any measures intended to assist players in managing their VL play.

- ***Characteristics of high risk play suggest the need to consider expanding the scope of the current RGFs in order to achieve desired impact for excessive gambling***

There are certain characteristics and behaviours that distinguish problem gamblers and those at high risk for developing problem with their VL gambling. This suggests that in order to maximize the potential value of the current RGFs, focus of the features can be broadened to target a range of play behaviours occurring at different levels of risk. Such play behaviours for consideration include:

- Frequency of play;
- Total length of time spent playing;
- Amount of money spent per session;
- Frequency of losing track of time or money while playing;
- Frequency of spending more time or money than wanted;
- Frequency of cashing out then continuing to play;
- Frequency of chasing losses;
- More planned play;
- Longer continuous play;
- Less effective use of budgeting;
- More games played per session;
- Tend to stop when run out of money;
- Games outcomes more likely to result in a loss position.

IMPACT OF RGFS ON KEY MEASURES

- Exposure to 60-minute pop-up related to decline in session length and reductions in expenditures by high risk players
- Lack of exposure to 60-minute pop-up related to an increase in expenditure by higher risk players
- Frequency of referring to on-screen clock related to improvements in keeping track of time and playing within desired time limits

Impact Analysis of RGFs Related Specifically on Session Length and Expenditure

- ***Exposure to the 60-minute pop-up reminder was associated with a small yet significant reduction in session length and a decrease in expenditure among higher risk players.***
- ***Use of the on-screen clock was associated with improvements in keeping track of time and playing within desired time limits, although (as yet), it had no measurable effect in reducing session length or expenditure.***
- ***There are other play behaviours and machine characteristics that had a significant effect for changes in session length and expenditure on the new terminals and in some cases influence or override the effectiveness of the RGFs.***

At a total, aggregate level the expenditure rate per minute for those who switched over to playing the new terminals increased by 16.4%. This change in the speed of expenditure had the largest impact on changes in the amount of time and money spent per session on the new terminals

In order to identify opportunities to enhance the effectiveness of the RGFs it is important to understand and address the role of other behaviours or machine characteristics in mediating the influence of the RGFs.

Evaluation of the RGFs:

To assist NSGC and ALC in on-going planning for the responsible gaming features the following recommendations emerging from the research are presented for consideration. A summary of key study findings related to each of the four RGFs evaluated in the Nova Scotia VL Responsible Gaming Research are presented in Section 5 – Conclusions and Recommendations. The summary includes a discussion of the implications of study results for each feature. The information can also be used to identify other potential options for consideration in association with responsible gaming initiatives.

On-Screen Permanent Clock

- **Ensure permanent on-screen clock has a permanent on-screen location.**
- **Make the on-screen clock more prominent/distinctive to alert players to passing time.**
- **Consider using the time-of-day clock option as a vehicle for players to actively set time limits (self-directed prompts or reminders).**

ON-SCREEN CLOCK RECOMMENDATIONS

- Ensure a permanent location
- Make feature more prominent/distinctive
- Consider option to make feature interactive

Cash Display

- **Retain the cash display.**
- **Facilitate the switch from a credit based to a cash based betting system by providing supplementary educational information about how the switch could impact play behaviours.**
- **Explore options to use the cash display in conjunction with machine based budgeting options.**

CASH DISPLAY RECOMMENDATIONS

- Retain feature
- Facilitate switch from credit based to cash based system
- Consider options to link cash display to budgeting

Pop-up Reminders

- **Retain the current pop-up messages until such time as improved technology, player feedback, or other modifications warrant changes to design.**
- **Have messages remain on the screen until the player responds rather than only appearing for a fixed time period; ensure player still has visual access**

POP-UP REMINDERS RECOMMENDATIONS

- Retain pop-up messages for continuous play with revised schedule
- Have messages stay fixed on-screen until players respond a
- Have message "freeze" on-screen for minimum time period regardless of player response
- Introduce complementary RGFs/message to target non-continuous play
- Consider linking message to time-of-day clock

to information relevant to the decision process when the pop-up message screen is engaged such as amounts spent, on-screen clock (time-of-day).

- Have the messages "freeze" on the screen for a fixed period of time (15 seconds) so players cannot speed up the process; Vary the content and appearance of messages to avoid development and use of habitual responses.

- Consider the option of having the pop-up messages appear every 20 to 30 minutes during play regardless of session length or continuous play; or alternatively introduce complementary features to target those behaviours that are currently reducing or precluding player exposure to the continuous play pop-up messages.

CASH OUT RECOMMENDATIONS

- Link activation to total time spent playing not continuous play
- Move up the warning message to provide players with more time to prepare for cash out
- Consider linking cash outs to occurrence of moderate wins

Mandatory Cash Out Requirement

- Similar to results for the pop-up message, the ideal scenario would be to link the warning and mandatory cash out to total time spent playing, rather than continuous play.

- Consider moving up the timing for the cash out warning to give players more opportunity to prepare for the mandatory cash out.

- Consider options for associating the mandatory cash out with wins

Conclusions

The Nova Scotia VL Responsible Gaming Features Research provides NSGC and ALC with valuable information for use in on-going planning for the VL responsible gaming program.

While readers are cautioned as to the limitations of the current research study in generalizing results to all players, the findings are promising in assessing the potential for machine based interventions in mitigating excessive play and minimizing any negative consequences associated with involvement in problem VL play.

The new terminals with RGFs are an important first step in addressing this area of responsible gaming and the research has made a significant contribution in identifying opportunities for further development in machine based intervention.

The findings presented in this summary are detailed in the Final Report, Nova Scotia VL Responsible Gaming Features Research, September 2002. Readers are referred to this report for information regarding the research design, analysis and results. The report is organized into five sections that can be distributed as independent reports or in its entirety as a comprehensive documentation of the study.

- Section 1 -
Research Design and Methodology

Section 1 provides detailed information regarding the research design, rationale, methodology, analysis and results including a glossary of terms.

- Section 2 -
General Overview

Section 2.0 provides a descriptive summary of general player response toward the new terminals and responsible gaming features (RGFs) over the introductory phase of the new machines. The playing patterns, attitudes, perceptions and characteristics of participating regular VL Players (n=164) are profiled and compared over the four waves of the study. The Pre Survey conducted during June 2001 established benchmark measures that were tracked at approximately two-month intervals until the Final Post 3 Survey in February 2002. Results are examined by adoption of play on the new terminals (Adopters versus Non-Adopters) and by risk for problem gambling using the Canadian Problem Gambling Index (CPGI: No Risk, Low Risk, Moderate Risk, Problem Play).

- Section 3 -
Play Behaviours and Game Outcomes on a per Session Basis

Section 3.0 profiles and compares specific play behaviours and game outcomes based on detailed information gathered for the last time played in each wave of the study (n=794) using a pseudo diary approach. The data for the most recent session was combined and then segmented into those plays which occurred on the old terminals (n=497) and those which occurred on the new terminals with the RGFs (n=297). To assess any differences associated with recreational versus problem play, the total observations for each type of terminal were then segmented and compared based on risk for problem gambling (CPGI: No Risk, Low Risk, Moderate Risk, Problem Players).

- Section 4 -
Impact Analysis of RGFs on Session Length and Expenditure

Section 4 examines the impact of the responsible gaming features (RGFs) and other machine characteristics (e.g., bill acceptors) on length of play (session length) and per session expenditures. Specifically, the analysis addresses the effectiveness of the RGFs in association with risk for problem gambling in reducing the amount of time and money spent per session for those regular VL players who, over the course of the study, switched their play to the new machines. General Linear Modeling for Repeated Measures, with covariates was used to isolate the effects of the RGFs in contributing to changes in session length or expenditure. The role of other behaviours or characteristics in influencing the effects of the RGFs or changes in time and money spent are also examined.

- Section 5 -
Conclusions and Recommendations

Section 5 summarizes the key findings emerging from the research process including insights gained during the qualitative phase of the study (player observation and focus group testing) and from Sections 1 through 4 of the quantitative report. The information is used to assess the relative performance of the four RGFs and other player and machine characteristics in influencing player behaviours. Recommendations are submitted for potential changes, modifications and/or product enhancements to improve the effectiveness of the features in mitigating excessive VL play and in assisting players in managing time and money spent on the new terminals.

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Any errors are solely the responsibility of the principal investigators at Focal Research Consultants. The opinions expressed in the reports are those of the authours and do not necessarily reflect the views or policies of the Nova Scotia Gaming Corporation or the Atlantic Lottery Corporation.

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ATLANTIC LOTTERY CORPORATION
VIDEO LOTTERY RESPONSIBLE GAMING FEATURE RESEARCH - FINAL REPORT

October, 2002

RESEARCH DESIGN & METHODOLOGY

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ATLANTIC LOTTERY CORPORATION
VL RESPONSIBLE GAMING FEATURES RESEARCH
FINAL REPORT - OCTOBER 2002

SECTION 1 - RESEARCH DESIGN & METHODOLOGY
PREPARED BY FOCAL RESEARCH CONSULTANTS LTD.

Section
1

RESEARCH DESIGN & METHODOLOGY

Introduction

In May 2001, the Nova Scotia Gaming Corporation (NSGC), through the Atlantic Lottery Corporation (ALC), began introducing new video lottery terminals with responsible gaming features (RGFs) in various sites across Nova Scotia. This initiated the first of three phases comprising the VLT Replacement Plan scheduled to occur over a two to three year period. Phase 1 took place from May 2001 to January 2002, during which time 1000 new model terminals and approximately 400 upgraded older model terminals were rolled-out in specific locations and communities throughout the province.

Responsible Gaming Features:

- ***Permanent on-screen clock***
- ***Amounts wagered in dollars and cents (instead of credits)***
- ***Pop-up reminders at 60, 90 and 120 minutes of continuous play***
- ***Warning & mandatory cash out requirement after 145 minutes of continuous play***

The changes introduced to the machines included new games and improved graphics, the addition of a bill acceptor and four responsible gaming features intended to assist players in managing the amount of time and money spent while playing the games:

- Permanent on-screen clock denoting time-of-day;
- Display of betting activity in cash amounts rather than credits;
- Pop-up reminders of time spent playing after 60, 90 and 120 minutes of continuous play;
- 5 minute cash out warning at 145 minutes of continuous play and mandatory cash out at 150 minutes.

VL RGF RESEARCH - PURPOSE

- Assess awareness
- Assess effectiveness
- Assess potential improvements

An important component of the VLT Replacement Plan was an evaluation of the impact of the responsible gaming features (RGFs) during Phase 1 of the program to:

- assess awareness of and exposure to the features;
- determine the effect of the RGFs on player behaviours, perceptions and attitudes;
- identify what if any changes or improvements are recommended to enhance the effectiveness of the features in mediating excessive play.

Background

The Responsible Gaming Feature Terminals are a first in North America and are intended to prevent or mitigate excessive VLT play.

In July 2001, it was estimated that Nova Scotia had a total population of 974,599 persons, of which approximately 722,178 (76%) were aged 19 years and older.[1] In 1998, the *Video Lottery Terminals Moratorium Act* capped the number of VLTs available in the province at approximately 3,200 (excluding VLTs operated by First Nations agreement holders), or approximately one terminal per 225 adults in the province. During the 2000/2001 fiscal year, total VL wagers increased by 5.6% ($450.5 million to $475.7 million), to comprise approximately 42% of all wagering activity on regulated gaming activities in the province.[2]

The video lottery terminal responsible gaming features initiative is the first of its kind in North America. These machine-based changes are intended to intervene during VL play sessions and impact players' behaviours by interrupting established patterns of play, ideally leading to reductions in session length and amount spent for those involved in excessive gambling.

While there have been several research studies undertaken worldwide into the impacts of gambling and VL gambling in particular, there is a paucity of research related to machine design or feature changes. In fact, this RGF research is the first in-depth examination of the impacts of intervening features on excessive VL play.[3]

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[1] FP Markets – Canadian Demographics 2001. Toronto: Financial Post.

[2] Nova Scotia Annual Gaming Report 2000 – 2001, Nova Scotia Alcohol and Gaming Authority.

[3] The only related research to date includes work by the Dalhousie Gambling Laboratory studying the effects on pathological gamblers of reduced speed of play, and research by the University of Sydney Gambling Research Unit (Australia) assessing the impact of reconfiguation/removal of bill acceptors, reduction in speed of play and reduction in maximum bet amount on recreational and problem gamblers (The Assessment of the Impact of the Reconfiguration on Electronic Gaming Machines as Harm Minimisation Strategies for Problem Gambling, A Report for The Gaming Industry Operators Group, A. Blaszczynski, L. Sharpe & M. Walker, November 2001).

Goal

The overall goal of the research is to assess the effectiveness of the four current responsible gaming features in terms of excessive VL play. There is substantial debate as to how to operationally define excessive gambling and problem versus non-problem gambling as well as, the role of harm minimization in the area of machine gambling. It is beyond the scope of the study to adequately address the issue in a comprehensive manner. However, it was necessary to adopt an operational framework for assessing the impact of the RGFs. **For the purpose of the current study, excessive play was broadly defined as spending time and/or money beyond desired and/or affordable levels.** There is a subjective component to the definition that inherently accommodates individual variations in tolerance for the activity, without attaching a clinical or moral judgment as to "what" constitutes an excessive level of play. The definition was also consistent with the goals of the RGFs in mitigating excessive play.

Specifically, the RGFs on the new and modified terminals are designed to assist players in managing the amount of time and money being spent while they are playing video lottery. **Thus, the interventions are intended to impact players' behaviours on a per session basis, ideally leading to reductions in the length of play and amount spent for those involved in excessive gambling (i.e., spending beyond desired and/or affordable play levels), while having minimal impact for those already playing at responsible or "low risk" levels.** Therefore, tracking time and money spent on a per session basis was a critical requirement in the current study and the rationale for defining excessive play based on these two principal components.

In the case of the current study, excessive play is not synonymous with problem gambling. Therefore, the Canadian Problem Gambling Index (CPGI), a recently developed and validated gambling screen, was used to classify participating players as either No Risk, Low Risk, Moderate Risk or Problem Players.

Design Considerations

DESIGN CONSIDERATIONS:

- ***Introduction of new terminals covered the whole province***
- ***New terminals were introduced in stages in various communities***
- ***Both "old" and "new" terminals available for play at locations***
- ***Additional differences besides RGFs included on new terminals***
- ***Novelty effect would influence results***

At the time of the original design for the Nova Scotia VL Responsible Gaming Features Research, there were a number of pre-set conditions regarding the introduction of the new terminals. These conditions had implications for the study design, execution, analysis and application of the results:

- **The rollout of the new terminals occurred over the whole province precluding the use of a "test market" and "control market" design for comparison purposes.** When measuring the effects of product changes on real consumer behaviour, it is ideal to obtain "before and after" responses for both those who are exposed to the changes (test market) and those who are not (control market). This facilitates identification of changes in behaviour associated with the specific changes to the machines (e.g., RGFs). The use of a control market also means that changes occurring independently of exposure to the new terminals (e.g., seasonal effect on play, lifestyle changes, normal and expected fluctuations in play behaviour) can also be identified and controlled for as part of the analysis. Given the rollout schedule for the new terminals, alternative options had to be incorporated into the study design and controlled for in the analysis and interpretation of findings.

- **The rollout was scheduled to occur in stages in various communities over the course of the introductory period.** This meant the amount of exposure to the new terminals would vary among locations/areas in the province depending on when the new machines were installed. Therefore, the rollout schedule had implications for sampling purposes. Specific areas of the province were selected to maximize and control for length of exposure to the new machines during the trial period.

- **Only one or two new or modified terminals would be available for play at each site meaning that throughout the study, participating players could be using "old" and/or "new" machines.** Players' exposure to or use of the new terminals could not be controlled and could only be determined once the study was completed. Therefore, the players whose "switching" behaviour could be used to assess response to the new games was unknown until the study was concluded and preliminary analysis conducted. Accessibility, machine preference, like/dislike of the new features/new games, all drive players' decisions to play on the new terminals. This means that those players who "chose to play the new terminals" over the old terminals might be different from other players and results for these individuals may not be representative of how players will respond in general. Thus, it was necessary to be able to profile and compare responses to the new terminals among those who took up play on the new terminals versus those who continued to play the older model machines.

- **The new terminals differed from the old terminals on more than just the RGFs.** In addition to including responsible gaming features, the new VL terminals have other modifications that differentiate the machines from the older models previously available in Nova Scotia. These other modifications consist primarily of the inclusion of a bill acceptor and the introduction of new games. Moreover, subsequent analysis found that there are differences in the rate of expenditure on the new terminals as compared to expenditure on the old machines (i.e., on average, there was a faster rate of expenditure observed on the new terminals). Given the effects of these other machine differences on player behaviour and attitudes, there is greater complexity in being able to isolate and identify the specific effects of the RGFs in influencing players behaviours and game outcomes.

- **The novelty effect of the new terminals could be expected to exert an influence, initially leading to higher rates of trial and other changes in behaviour as players became familiar with the new games/machines.** When a new game is introduced into the market it will generate considerable trial, especially by those most involved in VL play, including Problem Players who, in the 1997/98 NS Regular VL Players Study, were found to play a wider selection of games than non-problem players. Initially, therefore, there will be incentive to play the new games, simply because of their novelty. Much of the behaviour will be exploratory in nature, likely only lasting for a few months for frequent or problem players, longer for less frequent regular players. During this time players can be expected to pay more attention to the new features, including the RGFs. It is reasonable that players may eventually habituate to the changes although the changes may have affected their play behaviours. Consequently, any design must recognize and accommodate the role of the novelty effect in influencing initial player response to the new terminals.

Research Design

Given the complexity of the research requirements Focal Research submitted a comprehensive research plan to evaluate the RGFs. The approach adopted consisted of a multi-phased, iterative process using both qualitative and quantitative research methods. This was necessary in order to obtain the precision required to detect any changes related to the introduction of the new terminals, isolate the effects of the RGFs and incorporate a "test" and "control" component using the natural live market testing scenario presented. The research design for the study consisted of two primary components:

- ***Qualitative Research - Preliminary Product Response Phase***

The qualitative phase of the research was considered an integral part of the overall research process as there are many unknowns leading into the quantitative phase of the research about how the players would interact with the RGFs. Therefore, preliminary information obtained during the qualitative phase of the research was critical in providing the insight necessary to ensure the right questions were asked in the quantitative stage of the research.

- ***Quantitative Research – Post Product Launch Response Phase***

The quantitative research was undertaken to benchmark and track player behaviours, attitudes and characteristics over the course of the introductory period for the new terminals. The approach used was intended to establish baseline measures for each player prior to the introduction of the new or modified machines. At approximately two-month intervals following the initial launch, these same players were recontacted to obtain current play information and response for three subsequent follow-up surveys (Post 1, Post 2, Post 3). The data would allow us to determine how the introduction of the modifications was perceived by the various player groups, whether any concomitant changes occurred in play behaviours and outcomes, and whether these changes were related to play of the new terminals, risk for problem gambling and/or exposure to the RGFs.

RESEARCH PROCESS

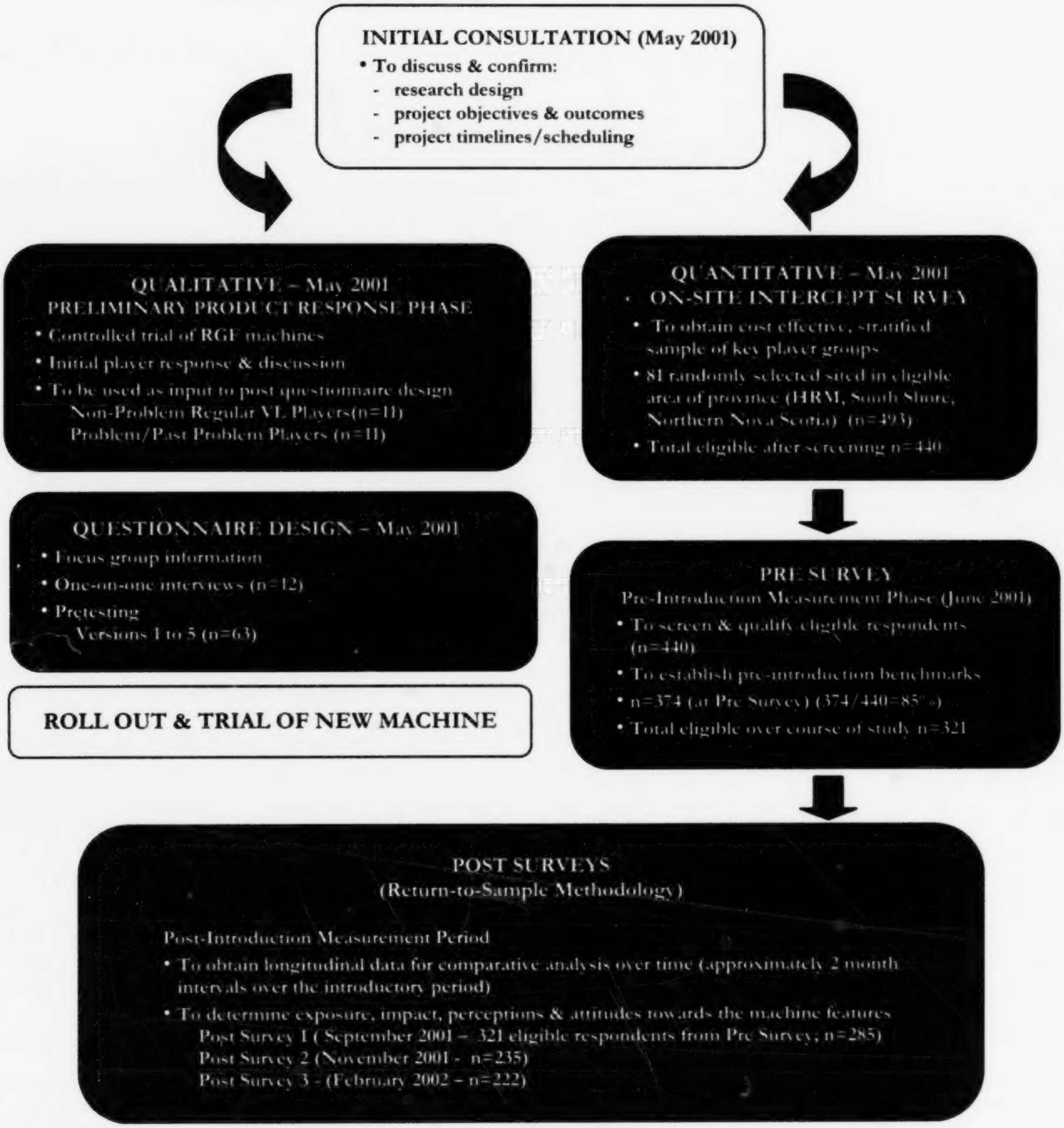
QUALITATIVE (May 2001)

- Observed Play (22)
- Focus Groups (4)
- One-on-one interviews (12)

QUANTITATIVE

Pre-test	(May '01)
On-site Intercepts	(May '01)
Pre Survey	(June '01)
Post 1 Survey	(Sept '01)
Post 2 Survey	(Nov '01)
Post 3 Survey	(Feb '02)
Analysis	(March – Aug '02)

Research Design Model



INITIAL CONSULTATION (May 2001)

- **To discuss & confirm:**
  - **research design**
  - **project objectives & outcomes**
  - **project timelines/scheduling**

QUALITATIVE – May 2001
PRELIMINARY PRODUCT RESPONSE PHASE

- Controlled trial of RGF machines
- Initial player response & discussion
- To be used as input to post questionnaire design
  Non-Problem Regular VL Players(n=11)
  Problem/Past Problem Players (n=11)

QUANTITATIVE – May 2001
ON-SITE INTERCEPT SURVEY

- To obtain cost effective, stratified sample of key player groups
- 81 randomly selected sited in eligible area of province (HRM, South Shore, Northern Nova Scotia) (n=493)
- Total eligible after screening n=440

QUESTIONNAIRE DESIGN – May 2001

- Focus group information
- One-on-one interviews (n=12)
- Pretesting
  Versions 1 to 5 (n=63)

PRE SURVEY
Pre-Introduction Measurement Phase (June 2001)

- To screen & qualify eligible respondents (n=440)
- To establish pre-introduction benchmarks
- n=374 (at Pre Survey) (374/440=85%)
- Total eligible over course of study n=321

ROLL OUT & TRIAL OF NEW MACHINE

POST SURVEYS
(Return-to-Sample Methodology)

Post-Introduction Measurement Period

- To obtain longitudinal data for comparative analysis over time (approximately 2 month intervals over the introductory period)
- To determine exposure, impact, perceptions & attitudes towards the machine features
  Post Survey 1 (September 2001 – 321 eligible respondents from Pre Survey; n=285)
  Post Survey 2 (November 2001 - n=235)
  Post Survey 3 - (February 2002 – n=222)

Phase One Qualitative – Preliminary Product Response Phase

The Preliminary Product Response Phase consisted of two components:

QUALITATIVE DESIGN

- Observation of play on new terminals
- In-depth discussion (Focus Groups)
- One-on-one player interviews

- Observation of play in a controlled setting (n=22)
- In-depth discussion groups (4)
- One-on-one player interviews (n=12)

For detailed information regarding the qualitative research methodology and findings, refer to the Phase One – Preliminary Product Response Final Report, Focal Research Consultants, May 2001.

There were 4 focus groups conducted on May 15 and 16, 2001. Two groups with Non-Problem Regular VL Players (n=11) and two groups with Resolved and Current Problem VL Players (n=11) took place on-site at Focal's facilities. Participants were provided the opportunity to play the new terminals with RGFs for approximately 90 minutes, prior to taking part in a group discussion regarding their play experience.

There were six new terminals installed for on-site play, three Spielo machines and three IGT machines. A maximum of six players participated during each test session to ensure all players had access to a new terminal. During the play sessions, there were two observers present at all times to record player comments, interactions with the terminals and behaviours. On some of the terminals, the timing of the pop-up reminders was deliberately manipulated to ensure players would be exposed to the messages during the test period. When an on-screen message occurred on any one terminal, the other test players were informed so that they could at least view the feature. Following approximately 1½ to 2 hours of play, all participants took part in focus groups to assess players' preliminary reactions to the games and responsible gaming features. The discussion covered initial reactions to the machines, reactions to each RGF, influence of the RGFs on perceptions, attitudes and play behaviours, and any perceived or projected influence on excessive play. Specifically the following issues were examined:

- Potential factors impacting play of the new RGF terminals
- Players perceptions of the utility of the various RGFs.
- How players will use and/or interact with the new games and various RGFs.
- Barriers or "myths" that may develop or be come associated with the RGFs.
- Other related issues.

The groups were successful in providing insight to expected player reaction to the machines and the new features, in bringing forth suggestions to improve the effectiveness of various features, and in identifying some critical methodological issues for the quantitative phase of the research.

The insight gained from players preliminary interaction and response was used as input to questionnaire design for the quantitative phase of the study. It also provided an indication and measure of initial market response and acceptance prior to the actual market roll out.

The first draft outline of the questionnaire was tested in 12 one-on-one personal interviews conducted by one of the principal investigators for the study.

Phase Two Quantitative

QUANTITATIVE DESIGN

- Questionnaire Pre-test
- On-site Intercepts
- Pre Survey (Benchmarks)
- Return-To-Sample Surveys
  - Post 1
  - Post 2
  - Post 3

Feedback from the 12 one-on-one personal interviews was incorporated into an initial draft questionnaire. Versions 1 to 5 of the draft questionnaire were **pre-tested** and analyzed before the final survey was produced for data collection (n=63).

As Regular VL Players (those playing VL once a month or more frequently) constitute a rare population, and the roll-out schedule for the new RGF VLTs resulted in specific eligible areas for sampling, **On-Site Intercept Surveys** at randomly selected video lottery establishments in each of the NS target areas represented the most efficient methodology to obtain a sample of Regular VL Players.

The **Pre-Introduction Measurement Phase Survey** provided benchmark measures of general playing patterns, problem gambling, awareness of and exposure to the new RGF terminals, and actual behaviours during the latest VL play session for these Regular Players. Highlights of this survey, examined by length of play session, are found in the Pre-Introduction Measurement Phase Benchmark Survey Summary Report.

A **Return-To-Sample** methodology was adopted to track participating player behaviours and opinions throughout the new VLT introductory phase. Three "Post" follow-up surveys were undertaken at approximately 8 to 10 week intervals. Following the Post 1 and Post 2 surveys, interim Summary Reports were produced highlighting key changes in tracking indices.

Rationale For Quantitative Design

A "test versus control market" design, whereby Regular Players exposed to the new terminals could be compared to Regular Players with no exposure to the new terminals, would have been ideal for this research. However, this approach was precluded by the introduction of new or modified VLTs in communities throughout the province, in various stages, eliminating the availability of an area of sufficient size with no possible exposure to the RGFs. The pre-determined rollout schedule also precluded randomized controlled trials, "the gold standard of health research"[4], whereby a randomly chosen group are surveyed (Pre measure), an intervention is introduced (new/modified VLTs) and the effects of the intervention reliably established.

The primary purpose of the research was to assess changes in player responses following introduction of the new terminals, therefore, analysis focuses on changes for individual players over time.

Several factors, both expected and unanticipated, necessitated a hybrid approach to research design to effectively meet information objectives while maintaining data integrity and confidence in the results.

On-Site Intercepts

During May 2001, VL players were intercepted on-site at 81 qualified VL locations in select communities throughout the province. All potential respondents were recontacted by telephone to screen for eligibility. Participation was restricted to permanent residents of Nova Scotia, aged 19 years or older, who played VL games at least once a month or more at eligible locations.

Three areas of the province were sampled, primarily the largest urban center in Nova Scotia, Halifax Regional Municipality (HRM: 66%), South Shore (21%) and Northern Nova Scotia (13%). Thus, the sample is not random or representative of all players in the province but provides a reliable cross section of regular players to benchmark and track for changes related to exposure to the new terminals. These locations were selected in consultation with NSGC & ALC to reflect the maximum base for potential study participants.

Pre-Post Measures

A pre-post measure methodology was necessary for accurate measurement of changes in gaming behaviour over the course of the new terminal introduction.

Players cannot judge, with any degree of accuracy, changes in their own behaviours with respect to VLT play. However, accuracy was critical to the success of this study, as it needed to be powerful enough to detect changes as low as ±15% in play behaviours. Most players would say that a change of 15% is no change in their length of play, yet a drop in expenditure of this magnitude would be a successful outcome of the RGFs. Only those players who dramatically increase or decrease their play behaviours will provide an accurate estimate of the direction of their changed behaviour, although the amount of change will not likely be accurate. As many players both increase and decrease their play over a given period due to random events in their lives, it would be very difficult to arrive at an accurate overall estimate of the impact of the RGF terminals over the course of the study.

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[4] The Assessment of the Impact of the Reconfiguration on Electronic Gaming Machines as Harm Minimisation Strategies for Problem Gambling, A Report for The Gaming Industry Operators Group, A. Blaszczynski, L. Sharpe & M. Walker, November 2001, Section 5.14 Research Methods, p. 43.

A 1994 study, conducted by Focal Research for the Atlantic Lottery Corporation, which examined changes in play behaviours due to VLT payout reductions confirmed that players were unable to recognize changes in their behavior and attitudes that had occurred in previous months. However, both pre and post trial measures of behaviour had been taken, and significant changes in both behaviours **and** attitudes were found in the hypothesized directions. Without a pre measure, there would have been no significant results in terms of changed behaviours in the study. **Focal Research has conducted numerous pre and post surveys in connection with product or program changes, advertising and communications trials and has found this approach to be critical to the accurate measurement of change in VLT play behaviors, attitudes and perceptions.** The inclusion of attitudinal and perceptual measures in the study was extremely important given that the research time period might not have been sufficiently long for play behaviours to change appreciably. Shifts in attitudes and perceptions are often antecedents to long term behavioural change.

Return-To-Sample

The rationale for a return-to-sample methodology is twofold: to enhance the time and cost utility by avoiding the necessity of large and/or repeated sampling, and to maximize the sensitivity of the measures to changes between Pre and Post behaviours.

As previously discussed, on-site recruiting of qualified players at gaming establishments provided a relevant sample of regular and problem VL gamblers in an efficient manner. The return-to-sample methodology is more sensitive to changes between Time 1 versus Time 2 measures. Essentially, respondents who took part in the pre-campaign evaluation were recontacted to complete a surveys in the post evaluation phase. Therefore, changes in key play behaviours were measured on an individual basis. With approximately two months between their initial participation and the follow-up surveys, it was highly unlikely that respondents remembered their original answers. Moreover, each follow-up survey specifically focused on current VL play (within the past month) and for the most recent play session.

Using a return-to-sample design also means that smaller sample sizes could be used to detect significant differences between the pre and post measures. However, there is a risk that testing effects may influence results (e.g., taking part in the pre survey predisposes individuals to focus more attention on the RGFs). This effect is considered especially when changes in behaviours are evident among players that are unrelated to any intervention or change. In anticipation of a testing effect, different measures for the same outcomes were included at various points throughout the surveys (e.g., direct versus derived measures). When similar results were evident, regardless of the question(s) involved in determining the results, this provides convergent validity for conclusions based on the measures. Any biases are therefore systematic and can be controlled for. Further, tracking of such behavioural measures over the three Post surveys allowed for comparisons of response to indicate areas where testing effect may be influencing results (e.g., comparisons among "test" (played new terminals) and "control" subjects (continued to play on old terminals)).

Regression Effect

Regression effect refers to the tendency for extreme responses to move towards the mean over repeated measures. This means that responses obtained from individual players sampled at a particular point in time with higher or lower than average response or play behaviour can be expected to regress toward the mean of all players over subsequent measurement periods. A skew towards more frequent regular players was required in the current study. Greater frequency of play is also associated with longer play sessions and higher expenditures. Therefore, a change in key indices (i.e., time and/or money spent on VL games) due to regression effect was anticipated at the design stage of the study. To control for the regression effect at an individual level and assist in isolating influences of the RGFs in the longitudinal analysis, the Pre survey play and expenditure levels were used in the Repeated Measures ANOVA Models as covariates (refer to Section 4 of this report).

Novelty Effect

It was also anticipated that a novelty effect would occur when new games and/or features were introduced, particularly among Regular VL Players who typically play video lottery at least once per month or more often on a regular basis. Certain sub-segments of players can be expected to initially respond to the introduction of the new terminals. To varying extents, curiosity and experimenting will comprise the majority of trial for the new machines. Therefore, it was necessary to introduce measures to both assess and control for the influence of the novelty effect for the various modifications. The "Post" introduction phase of this study was subdivided into three surveys (Post 1, Post 2 and Post 3). Interim analysis and top line reports tracked player response to the new terminals and RGFs to assist in determining effects of the novelty of the new features (including games), for consideration in interpreting final analysis results. Over the three measures, it was expected that the participating Regular VL Players would settle into a more regular play pattern on the new machines and the effects of the RGFs would be most accurately assessed by comparing the Pre and Post 3 data points.

Methodology – Quantitative

On-Site Intercepts

A total of 596 potential players were initially included in the sampling frame. Of these, 493 were acquired through on-site intercepts at 81 eligible locations selected throughout HRM (27 locations), the South Shore (28 locations) and the Northern Region of NS (26 locations) by Focal's team of trained field staff, between May 7th and June 8th.

An additional 103 individuals were selected from Focal Research's confidential database of Regular VL Players. The Regular VL Player panel is comprised of randomly selected VL players identified in past research conducted throughout Nova Scotia. Only those individuals living in qualified communities were selected for screening in order to augment the sampling frame.

The screening criteria consisted of the following:

- ***adult aged 19 years or older***
- ***permanent resident of Nova Scotia***
- ***plays video lottery at least once a month or more, on a continuous or regular basis (as based on play behaviours over the past year)***
- ***specifically plays VLTs on a regular monthly basis at the designated sample locations in Nova Scotia***
- ***does not work for the Atlantic Lottery Corporation, gaming regulators, any media (print, TV, radio), political or lobby group***

Pre Survey

Of the total 596 players on the sampling frame, only 440 met the initial screening requirements and were identified as eligible for participation in the current study. A Pre Survey was completed with 374 of the 440 potentially qualified players, yielding a response rate of 85% for Pre Survey data collection.

Post Survey

Only those players who had successfully completed the Pre Survey were eligible for participation in the Post 1 Survey. There were 53 respondents who were no longer qualified at the time of the Post 1 Survey (e.g., had moved out of test areas, did not play VL in the last month) and, therefore, were excluded from the sample.[5] In total, 321 eligible participants were identified, of which 285 participated in the Post 1 Survey (88.8% response rate).

Those participants identified as eligible at Post 1 (n=321) comprised the base for the study. At Post 2, 234 surveys were completed, with a response rate of 72.9%. During the final Post 3 Survey, 222 of the original sample of qualified participants completed all phases of the study, yielding a response rate of 69.2%.

There were 58 of the 222 respondents (26%) who, by the Post 3 Survey, had stopped playing VLTs. This level of "lapsed" play is consistent with the results of the 1997/98 NS Regular VL Players Survey conducted by Focal Research examining the turnover rate in the regular player base in Nova Scotia., in which it was estimated that in a given year approximately 25% of regular players are either stopping or starting play (Section 2 - Overview of Play in Nova Scotia, pp.2-5). Overall, only the information gathered for the 164 Regular VL Players who completed all components of the study was used to assess any changes in response over the course of the introductory phase for the new VLTs.

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[5] Those Pre Survey players who had not played any VLTs in the month prior to the Post 1 Survey were excluded from on-going participation in the study. This was done to control for differences in rates of exposure to the new terminals by ensuring that only those who played regularly during the introduction period were included in the analysis.

Sampling

The following table illustrates sample details for each quantitative research phase:

- **initial sample sizes** = total number of eligible participants available
- **ineligible participants** = those who did not meet screening criteria for participation in the study, including frequency of play, occupation, area of residence/play
- **eligible participants** = those who met participation criteria, including regular play (1+ per month) at specified retail sites
- **total surveys completed** = full survey data gathered
- **attrition rates** = percentage of eligible participants who did not complete the survey (e.g., refusals, unable to establish contact or follow-up)
- **participation rate** = percentage of eligible participants who were contacted and completed a survey

Table 1.1 – Sampling Frame – Eligible Respondents - Pre To Post 3 Surveys

Research Phase	Initial Sample Size	Ineligible Participants	Eligible Participants	Total Surveys Completed	Attrition Rate	Participation Rate (Completes / Eligible Players)
Pre-Introduction	**596**	**156**	**440**	**374**	**15.0%**	**85.0%**
• On-Site Intercepts	493	118	375	318	15.2%	84.8%
• Sample Augmentation: (random VL player panel)	103	38	65	56	13.8%	86.2%
Post-Introduction Survey 1	**374**	**53**	**321**	**285**	**11.2%**	**88.8%**
Post Introduction Survey 2	**285**	**0**	**321**	**234**	**27.1%**	**72.9%**
Post Introduction Survey 3	**234**	**0**	**321**	**222**	**30.8%**	**69.2%**

Sample Characteristics

It will be recalled that 53 of the original 374 players participating in the Pre Survey were no longer qualified to take part at the Post 1 Survey. This reduced the sample frame to 321 eligible respondents, of which 222 players or 69.2% participated in the four waves of the study. Although the response rate for the study met or exceeded typical standards for sampling purposes, it was considered important to examine and compare key sample characteristics over the four surveys.

In total, 59.4% of respondents participating in the Pre Survey successfully completed the Final Post 3 Survey (222/374). The data was examined after each survey to determine if the attrition rate occurred randomly over various types of players or if certain groups or segments were more likely to opt out of on-going participation.

The profile of respondents who took part in each of the four surveys (Pre-Introduction, Post 1, Post 2 and Post 3) has remained stable. This means that those Regular VL Players who continued to take part in the study do not differ significantly form those who did not participate throughout the project.

To assess the effects of sampling, the results for the Post Survey 3 were compared to key measures identified in the previous surveys, including:

- Average Session Length
  - Short Session Players (< 60 minutes)
  - Medium Session Players (60-120 minutes)
  - Long Session Players (121+ minutes)
- Play Status
  - Infrequent Players (on average play <4 times/month)
  - Frequent Players (on average play 4+ times/month)
  - Problem Players (currently have problems with VL play)
  - Resolved Problem Players (had problems in the past with VL Play)
- Regional and Demographic Profiles

Table 1.2 – Key Sample Characteristics

	Pre-Introduction Survey (n=374)	Post-Introduction Survey 1 (n=285)	Post-Introduction Survey 2 (n=234)	Post-Introduction Survey 3 (n=222)
SESSION LENGTH:				
Short (< 60 min)	31%	29%	26%	24%
Medium (60-120 min)	38%	39%	39%	39%
Long (121+ min)	31%	32%	36%	36%
CURRENT PLAY STATUS:				
Infrequent Player	18%	16%	15%	15%
Frequent Player	41%	42%	42%	42%
Problem Player	34%	33%	34%	34%
Resolved Prob. Player	7%	8%	9%	9%
REGION OF PROVINCE:				
HRM	60%	61%	63%	64%
South Shore	25%	25%	23%	22%
Northern Region	15%	14%	14%	14%

In terms of demographic measures, there were no significant differences between the Pre-Introduction Survey, Post-Introduction Survey 1, Post-Introduction Survey 2 and Post-Introduction Survey 3 demographic profiles with regard to age, gender, education, employment status, occupation, income, household composition, or urban versus rural area of residence. (Refer to Section 2 – General Overview for demographic profile of participants.)

Questionnaire Design

A draft questionnaire outline was designed using input from the qualitative research results (play observation, focus groups). The outline was refined in 12 one-on-one interviews, and 5 successive versions of the Pre Survey were pretested with a total of 63 qualified Regular VL Players. (Refer to Appendix A for survey instruments.)

Table 1.3 – Questionnaire Details – Pre-Introduction To Post 3 Survey

	Pre-Introduction Survey	Post-Introduction Survey 1	Post-Introduction Survey 2	Post-Introduction Survey 3
Number of questions	76	66	75	88
Survey length	avg: 17 mins. range: 15 to 35	avg: 15 mins. range: 10 to 30	avg: 18 mins. range: 12 to 31	avg: 17 mins. range: 10 to 30

The questionnaire format for the study included the following:

SECTION	CONTENT
A – General Playing Patterns	• general VL play patterns/characteristics– including frequency of VL play in the past month, average length of session, average amount spent, frequency of play behaviours, attitudes towards VL play • POST 2 Survey included 9-item CPGI measures
B – Exposure To/Play On New Terminals	• awareness of the new/modified terminals and RGFs, trial and play in the last month on the new machines, comparative liking • POST 1 – 3 Surveys included liking and perceived effectiveness of individual RGFs, barriers to trial
C – Last Time Played VL	• details of starting play, during play and stopping play – including date, time and location of last time played, impulse play, social play, games played, use of bill acceptor, amount of money to start play, frequency of adding money, length of last play session, frequency of play interruptions, longest continuous play period, frequency of losing track of time, reasons for stopping play, session outcome, per session expenditure, frequency of losing track of money • POST 1 – 3 Surveys included exposure to pop-up messages during last play session

D - Demographics	• PRE Survey – year of birth, household composition, marital status, work status and occupation, education, household income level, mother tongue, postal FSA, gender • POST 1 – 3 Surveys included updates for changes in marital status, work status and income level

Data Collection

Table 1.4 – Data Collection Details – Pre-Introduction To Post 3 Survey

	Pre-Introduction Survey	Post-Introduction Survey 1	Post-Introduction Survey 2	Post-Introduction Survey 3
Dates of data collection	June 5th – June 25th, 2001	Aug. 20th – Sept. 13th, 2001	Nov. 5th – Nov. 22nd, '01	Jan. 23rd – Feb. 4th, 2002
Regional breakdown of survey completions:				
HRM	n=226	n=175	n=148	n=143
South Shore	n=92	n=70	n=53	n=49
Northern Region	n=56	n=40	n=33	n=30
TOTAL	**n=374**	**n=285**	**n=234**	**n=222**
Total eligible respondents	440	321	321	321
Overall response rate	85.0%	88.8%	72.9%	69.2%

The data were collected in four waves, commencing on June 5th, 2001 and completed on February 4th, 2002. Each stage of data collection was fully supervised and conducted from Focal Research Consultants' centralized data collection facility in Halifax, Nova Scotia. Every survey was 100% edited for accuracy and completeness. Random quality control checks (participant re-contacts by supervisory staff) were conducted with 10% to 15% of each interviewer's surveys. Response rates were maximized by requiring unlimited callbacks to be made on the numbers released, over various days of the week and times of day, and by senior staff recontacts of refusals.

Data entry occurred concurrently with data collection to maximize turn-around and allow for preliminary data checks/reviews. A minimum 15% manual quality control check was performed on the entered surveys. In addition, the data were submitted to customized data cleaning programs, which incorporate logic checks, as well as out of the range value checks. The data file was labeled using SPSS version 10.0.

Sensitivity Training

Interviewers at Focal Research already participate in a mandatory eighteen hour training session for social and marketing research data collection. While it was emphasized that the interviewers are not trained counselors, it was also recognized that, during the course of the project, they potentially may encounter individuals who are in crisis or distress, due to their video lottery gambling. Staff needed to be adequately prepared, in order to cope emotionally and professionally with respondents without compromising the respondents' trust or the integrity of the data collected.

All project interviewers participated in a training seminar consisting of a project briefing and sensitivity training provided through the Department of Health Problem Gambling Services and other related gambling service providers, in order to:

- enhance the information gathered by the front-line interviewers;
- familiarize interviewers with gambling issues and problems as well as survey design, content, protocol and procedure;
- provide interviewers with greater sensitivity towards respondents;
- ensure appropriate coping mechanisms, if the interviewers encounter someone in crisis or distress;
- ensure familiarity with problem gambling referrals and supplementary services (1-800 Gambling Help Line, Crisis Intervention programs).

Results

Interim summary reports were compiled at each stage of the study, to document the research and describe key findings and/or track key indices:

- Preliminary Product Response - Focus Groups
- Pre-Introduction Measurement Phase Benchmark Survey Results
- Post 1 Summary FACT© Report
- Post 2 Summary FACT© Report

The final report focused only on those respondents who completed all four waves of the study.

Measures Used

Expenditure Measures

Expenditure estimates by consumers tend to pose a challenge in survey research due to the relative inconsistency between reported amounts spent versus actual revenues and the difficulty in tracking such measures over time.

Focal Research has been conducting gaming expenditure analysis for over ten years and has refined measures that are accurate at the aggregate level of ±2% to 3% when compared to actual revenue figures.

Expenditure questions were used in the survey that reflect actual rather than theoretical behaviour. This method improves the utility of the expenditure data, although small sample sizes for a rare population (i.e., problem VL players) will impact the accuracy on a per session/individual basis (smaller sample sizes yield greater margins of error).

Problem Gambling Measurement

PROBLEM GAMBLING MEASUREMENT OPTIONS:

- SOGS
- DSM IV
- CPGI
- PGTM

In the past few years, the use of SOGS and the DSM IV in a general population setting has come under sharp criticism, primarily because the instrument is grounded on observations from a clinical population (NSDOH & Focal Research, 1998; Abbott & Volberg, 1999; Schaffer et al, 1997; Dickerson & Baron, 1999; Volberg & Banks, 1990). Use of these screens in a survey designed to measure gambling in a non-clinical setting without a properly trained clinician administering the screen has not been validated. Moreover, both screens were developed prior to the introduction and widespread distribution/accessibility of various gambling options such as electronic gambling machines. As a result, the unique aspect of some types of gambling are not accounted for in screening. SOGS and the DSM IV also suffer from poor specificity due to the inclusion of both dysfunctional and non-dysfunctional diagnostic criteria. These screens, therefore, pick-up (diagnose) a significant proportion of false positives, a problem that is exacerbated outside of the clinical setting. Finally, the value of using existing screens such as SOGS and the DSM IV in generating useful social and public health policy has also been called into question, and it has been suggested that future research on problem gambling move towards a more practical assessment of disordered gambling (Schaffer et al, 1997; Dickerson & Baron, 1999).

As a result of these limitations, there have been numerous national and international efforts to advance problem gambling research beyond the use of SOGS and the DSM IV. Focal Research has been a strong proponent of replacing the existing screens with a more credible and meaningful alternative and has made a significant and internationally recognized contribution toward this goal. The Canadian Problem Gambling Index (CPGI) and the Focal Research Problem Gambling Triangulation Method (PGTM) were both included in the questionnaire, with the CPGI risk classification adopted as a primary segmentation for Regular VL Players.

The CPGI stems from a collaborative effort between the Canadian Provinces to validate and put into practice a standard instrument for measuring problem gambling in the Canadian general population. The measure has been designed to capture gambling involvement, behavioural indicators of problem gambling, cognition related to problem gambling, consequences of problem gambling, and the environmental factors and correlates of problem gambling. A further and significant strength of the CPGI is that it has a SOGS conversion factor that facilitates meaningful comparisons with other SOGS-based studies. Including the CPGI also provided an opportunity to continue to test and benchmark this new Canadian instrument.

The PGTM, on the other hand, is grounded in the experiences and psychopathology of gamblers and, therefore, is considered to have excellent face and content validity. The measure was designed after conducting primary research with both social non-problem gamblers and those involved in problematic play. The measurement properties of the PGTM have been assessed and the measure has been found to have very high reliability (Cronbach's Alpha consistently equal to or higher than 0.80). The convergent validity of the measure was verified in the 1997/98 Nova Scotia Video Lottery Players Survey. Problem VL Gamblers consistently scored significantly higher than Non-Problem VL Gamblers on a number of related measures such as patronage at video lottery locations, video lottery expenditure, other gaming expenditure, length of time playing video lottery, chasing behaviour, attitudes and outcomes. The measure has also been validated against the DSM-IV in the 2000 Regular Video Lottery Players Study and found to have a significant level of agreement in that 141 of 181 gamblers were classified similarly. According to Dickerson & Baron, the methodology and results of the approach adopted represent "a model for future research in its generation of a unique database of significance to all aspects of social policy and treatment service development."

> ***"[Focal Research's] methodology and results…is a model for future research in its generation of a unique database of significance to all aspects of social policy and treatment service development." -***
> **Dickerson & Baron (1999)**

Inclusion of both the CPGI and the PGTM ensures comparative value with other gambling research studies, past and future. However, given published validation, the CPGI was used as the primary measure for identification and assessment of responses by risk for problem play.

Analysis

The following objectives were defined in the original proposal for the RGF research with Regular VL Players, and throughout the course of the study:

- demographic profiles of participating Regular VL Players (including key differences by player status and by adoption of the new terminals)
- awareness of the RGF terminals
- play of the RGF terminals
- preferences for the RGF terminals

- motivations for VL gaming activity
- measures of VL gaming activity
- measure of problem gambling
- impact of the RGFs (and problem play) on session length and expenditures

Descriptive statistics used in analysis for this study include:

- Chi square tests for distribution comparisons
- Z-tests and/or t-tests for mean comparisons
- Two tailed z-tests for proportions
- Mann-U-Whitney tests for median comparisons
- Correlation Analysis (Pearson for interval level, Spearman for rank ordered level)

For detecting within-subject differences over time, dependent t-tests and unianova tests for repeated measures were used. General Linear Modeling with covariates for repeated measures was used to identify the effects of the RGFs on changes in length of time and amount spent on a per session basis. Given the exploratory nature of the research, all tests of significance were conducted based on a 90% + confidence level for two-tailed tests of significance. When appropriate, the actual p-value is included and/or denoted by an * symbol (*=$p \leq .10$, **=$p \leq .05$, ***=$p \leq .01$). All analysis was conducted using SPSS version 10.0.

FINAL REPORT
SECTION 1 – Research Design & Methodology
SECTION 2 – General Overview
SECTION 3 – Play Behaviours & Game Outcomes On A Per Session Basis
SECTION 4 – Impact of RGFs On Session Length & Expenditure
SECTION 5 – Conclusions & Recommendations

Final Report

The following Final Report for the Nova Scotia Video Lottery Responsible Gaming Features Research study is organized into five sections that can be distributed as independent reports or in its entirety as a comprehensive documentation of the study.

Section 1 – Research Design & Methodology

Section 1 provides detailed information regarding the research design, rationale, methodology, analysis and results, including a glossary of terms.

Section 2 – General Overview

The primary purpose of the current research study is to assess the impact of the RGFs on the amount of time and money spent playing video lottery. However, it is first necessary to understand response to the new and/or modified terminals within the context of general playing patterns and associated game outcomes. This information not only provides the necessary measures for use in modeling the impact of the RGFs (Section 4 - Impact Analysis) but also establishes benchmark measures for profiling and tracking any changes in responses as players became more familiar with the new terminals.

The General Overview for the 2001/2002 NS Responsible Gaming Features Study provides descriptive contextual information for evaluating the impact of the RGFs on player behaviour, attitudes and game outcomes. This "big picture" view tracks changes in responses over the course of the introductory period for the new terminals, thereby contributing to a more comprehensive understanding of the potential effects of the modifications in influencing behaviour and outcomes.

The following issues are examined in the General Overview section:

- Demographic characteristics
- General playing patterns
- Changes in key indicators – frequency of play, time & money spent per session
- Frequency of typical play behaviours
  - Losing track of time or money while playing
  - Spending more time or money than intended or desired
  - Chasing losses
  - Cashing out and continuing to play
  - Running credits down to zero before putting in more money
- Response to RGFs
  - Awareness
  - Liking
  - Perceived effectiveness
- Play of the new terminals
- Exposure to the RGFs during play
- Comparative liking of the new terminals
- Preferred and disliked aspects of the new terminals
- Player suggested changes/improvements
- Perceived effect of new machines on reducing the amount of time/money spent

The results for those Regular VL Players participating in all 4 waves of the study were examined at a total player level (n=164) and by two primary segmentations:

- Adoption of play on the new terminals (Adopters versus Non-Adopters)
- Player Status (Canadian Problem Gambling Index, CPGI, classification of No Risk, Low Risk, Moderate Risk and Problem Play)

Adoption of Play on the New Terminals

"Adopters" are defined as those who, during the final wave of the study, were playing VL games on the new terminals 75% or more of the times they played video lottery in the last month. This group is compared to "Non-Adopters", who did not adopt play on the new machines but instead continued to play mainly on the old terminals. This segmentation allows for the examination of player behaviours and outcomes for those who have had the greatest exposure to the new machines and features compared to those who primarily played VL games without RGFs.

ADOPTION SEGMENTATION

- Adopters (n=75) by Wave 4 played primarily on new terminals
- Non-Adopters (n=89) by Wave 4 played primarily on old terminals

Player Status (CPGI Classification of Risk for Problem Gambling)

The Canadian Problem Gambling Index (CPGI) was used as a measure of risk of developing problems with gambling among participating VL players. The CPGI was recently developed under the aegis of the Canadian Centre on Substance Abuse for the Inter-Provincial Task Force on Problem Gambling. Unlike its predecessors such as the South Oaks Gambling Screen (SOGS) and the DSM-IV, the CPGI was designed specifically for screening in the general population.[6] The CPGI is based on cumulative scores on a 9-item set of measures, and was validated for use in the general population in January, 2000.[7]

PLAYER STATUS (CPGI) SEGMENTATION

- No Risk (n=47)
- Low Risk (n=48)
- Moderate Risk (n=39)
- Problem (n=30)

Section 3 – Play Behaviours & Game Outcomes On A Per Session Basis

In Section 2, information on general play behaviours, perceptions and attitudes provides a macro or big picture view of the cumulative effects of video lottery play on a regular monthly basis. This is important in determining how the introduction of machine modification or interventions are perceived by various player groups, whether or not such changes have a measurable influence for player outcomes and the magnitude of the impact in achieving change.

The outcome of regular video lottery play is the sum of how players interact with the games each time they play.

Most consequences for video lottery gambling accrue over time as a result of continuous or on-going involvement in the activity. However, general gambling outcomes are the sum of how players interact with the machines each time they play. While frequency of play indicates how quickly the consequences of play behaviours will accumulate, it is behaviours at an individual per session level that defines what those effects will be.

The responsible gaming features on the new terminals introduced by ALC and NSGC are designed to assist players in managing the amount of time and money spent during play, in particular for those who are playing at "excessive levels", while having a minimal impact for those engaged in non-problem or responsible play. Therefore, to assess the role of the features in influencing player behaviours relative to the vast array of other features that can potentially affect players' interactions and decisions, it was necessary to gather information that accurately reflects how players respond during a specific play session.

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[6] 2001 Survey Of Gambling In New Brunswick, Focal Research Consultants Ltd. for the New Brunswick Department Of Health & Wellness, 2002.

[7] Ferris, J., and Wynne, H. (2000). Validating the Canadian Problem Gambling Index: Report on the Pilot Phase of Testing, January 10, 2000. Canadian Centre on Substance Abuse.

This information provides insight not only in evaluating response towards the new terminals with the RGFs, but also in informing on-going responsible gaming initiatives by understanding how players in general interact with the machines.

Gathering accurate information on a per session level for play is difficult. VLTs are not currently configured to track behaviour or outcomes on an individual session basis, instead providing only aggregate outcomes for a limited number of inputs (e.g., coin in/coin out, payout percentages). Given the information requirements of the current study, an observational approach could not provide the necessary data, therefore a self-report method was used.

As demonstrated in previous research conducted by Focal Research with video lottery players, including the pre-test and qualitative research undertaken in the current study, players' self reports of play behaviours can be highly accurate under certain conditions such as when:

- The questions are salient to how players behave;
- The information refers to specific events that are relevant and are session specific rather than non-specific or generalized;
- Such behaviours are in "memory" rather than based on priori theories about how players think they respond;
- Questions are non-threatening without any value-laden connotations which may bias or influence player reporting.

Section 3 profiles and compares specific play behaviours and game outcomes based on detailed information gathered for the last time played in each wave of the study (n=794), using a pseudo-diary approach. The data for the most recent sessions were combined and then segmented into those plays which occurred on the old terminals (n=497) versus those which occurred on the new terminals with the RGFs (n=297).

To assess any differences associated with recreational versus problem play, the total observations for each type of terminal were then segmented and compared based on risk for problem gambling (CPGI: No Risk, Low Risk, Moderate Risk, Problem Players) to provide a descriptive overview of player responses.

Table 1.5 - Total Observations and Respondents by Type of Terminal and Player Status

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	79	52	46	33	34	42	34	21
Total Observations	197	114	103	83	70	100	76	51

The results are organized and presented under four primary headings:

- Starting play
    - Reasons for playing (impulse versus planned play)
    - Playing alone versus with others
    - Amount of money put into machine at start of play
    - Number of times inserting more money
    - Perceptions of number of times more money was put into machines
- During play
    - Behaviours interrupting play
    - Number of times players temporarily interrupt play
    - Letting credits go down to zero
    - Cashing out and continuing to play
    - Taking a break
    - Switching machines
    - Length of time before first interrupting play
    - Longest period of continuous play
    - Use of bill acceptors
    - Exposure to pop-up messages & mandatory cash out
    - Number of different games played
    - Types of games played
- Stopping play
    - Reasons for stopping play
- Game outcomes
    - Length of session
    - Session length being longer, shorter or same as intended
    - Frequency of losing track of time during play
    - Win, breakeven or loss at end of session
    - Amount spent out-of-pocket
    - Amount won
    - Expenditure being more, less or same as intended
    - Frequency of losing track of money spent during play

Section 4 – Impact Of RGFs On Session Length & Expenditure

Section 4 examines the impact of the responsible gaming features (RGFs) and other machine characteristics on length of play (session length) and per session expenditures. Specifically, the analysis addresses the effectiveness of the RGFs in reducing the amount of time and money spent per session for those Regular VL Players who, over the course of the study, switched their play from the old to the new machines. The effects of the RGFs are also examined in association with risk for problem gambling (low versus high risk players as identified by the CPGI).

Analysis was conducted using the Repeated Measures ANOVA with covariates using the General Linear Model (GLM) module of SPSS 10.0.5. The **dependent variables** in the models were **length of session** and **session expenditure**, from the Pre survey and Post 3 survey. The **independent variables** (factors) in each model were **exposure to the RGF** (one model per RGF) and **risk for problem play** (low versus high risk players based on CPGI classification).

Analysis began with a broad range of variables to identify possible influences on the dependent variables. At each iteration of the GLM analysis, the covariate with the least significant relationship (greatest p-value) was removed from the model, and the analysis repeated with the reduced set of covariates (backward elimination). All final models only contained variables that were significant as covariates at the $p \leq .10$ level.

A separate analysis was conducted for each of the RGFs, as exposure to each of the pop-up message RGFs is highly correlated. This occurs because the messages are sequentially related. For example, almost all of those exposed to the 90-minute pop-up reminder would also have been exposed to the 60-minute pop-up reminder. Thus, there is considerable overlap among those exposed to each successive pop-up, although the number of respondents seeing specific messages declined as the length of time required for a specific pop-up message to appear increased (i.e., fewer players saw the 120 minute reminder then was the case for the 90 and 60 minute pop-ups). In order to determine if the on-screen RGFs (clock, display of cash amounts instead of credits) influenced session length and/or expenditures, these features were also examined in separate analyses. In total, 14 separate models were developed – 7 RGFs with each of the two dependent variables (session length and expenditure). In addition, separate models were undertaken to assess the role of use of the bill acceptor on changes in session length and expenditure.

The presentation of the results for each analysis are organized as follows:

- Results: For Session Length
  - impact of RGFs on changes in session length
  - role of significant covariates

- Results: For Expenditure
  - impact of RGFs on changes in expenditure
  - role of significant covariates

- Results: Change In Expenditure Rate
  - identification of increase in amount spent per minute on new terminals
  - determinants of increased amount spent per minute

In Section 2 - General Overview, the findings were examined by adoption of play on the new terminals. Adopters (n=75) were defined as those players who at the end of the study (Post 3 Survey - February 2002) were playing mainly on the new terminals (75%+ of times played in the last month). Non-Adopters (n=89) were comprised of those who at the end of the study continued to play mainly on the old terminals. Findings are based on aggregate level (total responses) comparisons between these two groups of players.

However, in order to specifically assess the impact of the RGFs on changes in behaviour, a different approach is required. Such analysis must be sensitive to changes in individual rather than group responses. This means that measures are compared over time (Time 1 versus Time 2) on a per player basis. Ideally, a baseline or "Pre" measure benchmark is obtained (Time 1), an "intervention/change" is then introduced, and then a "Post" measure (Time 2) is conducted. By comparing the results between the Time 1 and Time 2 measures, based on exposure to the modifications/intervention, it is possible to model and isolate the impacts of the intervention in influencing player responses (behaviour or outcomes).

Despite due diligence, there were inherent and unavoidable delays associated in coordinating the activities of the various diverse groups, impacting the execution of the first phase of the research.[8] Consequently, there was an overlap between the initial rollout of the new terminals and data collection for the Pre Survey. During the Pre Survey, 38% (n=62) of participating players had already tried the new terminals with 12% (n=20) having played 75% or more of the times they had played in the last month on the new machines. This introduced a new challenge for the analysis. Therefore, to minimize the influence of any early exposure to the new terminals, it was necessary to redefine the test and control groups for the impact analysis.

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[8] In order to draw the sample for the on-site intercepts, it was necessary to coordinate the cooperation of ALC sales and marketing in obtaining a current retailer database and ensuring retailers were informed of the process. It was also necessary to secure permission from selected VLT site-holders, inform site staff and management, work cooperatively with the technicians and management executing the rollout schedule for the new terminals, and work with the project team at NSGC and ALC in identifying the appropriate sampling frame in light of on-going changes and adjustments to the rollout schedules and delivery by the VLT manufacturers.

The segment of interest in this analysis is SWITCHERS – Regular VL Players who played mainly on the old terminals during the Pre measure but switched, over the course of the study, to be playing mostly on the new terminals with RGFs during the Post 3 measure.

The player segment of interest is referred to as the **Switchers** in this analysis and is comprised of those Regular VL Gamblers who switched play to the new machines over the period of the study. Specifically, Switchers are characterized as those players who initially reported playing on the old machines 75% or more of the time during the month prior to the Pre survey, and then reported playing on the new machines 75% or more of the time the month prior to the last survey. There are 55 participating players who qualified as Switchers on the sample.

Glossary Of Terms

New or Modified Terminals – those video lottery terminals introduced during the first phase of the VLT Replacement Program. These terminals are replacing "old" or "older" terminals, and have new/different versions of VL games, the RGFs, and bill acceptors.

Regular VL Players – adults who participate in video lottery (VL) gambling once per month or more on a regular, on-going basis (based on behaviour over the past 12 months). This was the minimum criteria for participation in the study.

Adopters – those participating Regular VL Players who, by the Post 3 measure, played at least 75% of their VL sessions in the previous month on the new or modified terminals featuring RGFs (n=75, 46% of participating Regular VL Players). This segment was compared to those players who continued at the Post 3 measure to play mainly on the old terminals (Non-Adopters).

Non-Adopters – those participating Regular VL Players who, by the Post 3 measure, played less than 75% of their VL sessions in the previous month on the new or modified terminals, choosing instead to play mainly on the old terminals without RGFs (n=89, 54% of participating Regular VL Players). This segment was compared to those players who mainly played on the new terminals during the Post 3 measure (Adopters).

Canadian Problem Gambling Index (CPGI) – a relatively new instrument intended to provide a more meaningful measure of problem gambling for use in general population surveys than existing instruments. The CPGI was developed over three years by a team of Canadian researchers, and was released in March 2001. The full CPGI uses 31 items to measure gambling activity, problem gambling behaviour, adverse consequences and other variables correlated with problem gambling (e.g., drug and alcohol use, family/health problems, etc.). A subset of the CPGI (a 9-item measure, labeled the Problem Gambling Severity Index) allows for respondents to be classified along a risk continuum for development of problem play, to differentiate Non-Problem, Low Risk, Moderate Risk and Problem Gamblers. This subset of the CPGI was used in the current study to segment Regular VL Players by risk of developing problems with VL play:

> **No Risk Players** – those achieving a score of 0 on the 9-item CPGI classification measure; n=47, 29% of participating Regular VL Players.
>
> **Low Risk Players** – those achieving a score of 1 or 2 on the 9-item CPGI classification measure; n=48, 29% of participating Regular VL Players.
>
> **Moderate Risk Players** – those achieving a score between 3 and 7 on the 9-item CPGI classification measure; n=39, 24% of participating Regular VL Players.
>
> **Problem VL Players** – those achieving a score of 8 or higher on the 9-item CPGI classification measure; n=30, 18% of participating Regular VL Players.
>
> **"Lower Risk" Players** – in Section 4 of the report (Impact Of RGFs on Session Length & Expenditure), the analysis required collapsing the CPGI segments for meaningful results. Therefore, the No Risk and Low Risk Players were combined to represent Lower Risk Players for this analysis (n=95, 58% of participating Regular VL Players).
>
> **"High Risk" Players** – in Section 4 of the report (Impact Of RGFs on Session Length & Expenditure), the analysis required collapsing the CPGI segments for meaningful results. Therefore, the Moderate Risk and Problem Players were combined to represent Higher Risk Players for this analysis (n=69, 42% of participating Regular VL Players).

Frequent VL Players – those Regular VL Players who typically play VL games a minimum of 4 times per month. Frequent VL Players differ significantly from Infrequent VL Players in play characteristics, behaviours, attitudes, and risk of problem gambling.

Infrequent VL Players – those Regular VL Players who typically play VL games at least once per month but fewer than 4 times per month. Infrequent VL Players differ significantly from Frequent VL Players in play characteristics, behaviours, attitudes, and risk of problem gambling.

Trial Players – refers to those participating Regular VL Players who have tried playing the new or modified terminals at some time since their introduction. As of the Post 3 measure, 84% of participating Regular VL Players can be described as Trial Players.

Continued Adoption – is a measure of tendency to adopt play on the new terminals. In this study, continued adoption is the percentage of Trial Players (those who have ever played on the new terminals) who continued to play on the new terminals in the previous month.

Switchers – those players who played mainly on the old terminals at the Pre measure and, by the Post 3 measure, had switched to playing mainly on the new terminals (n=55, 34% of participating Regular VL Players). This group differs from Adopters in that some Adopters were already playing on the new terminals at the Pre measure. Definition of the Switchers segment was required for analysis in Section 4 (Impact of RGFs On Session Length & Expenditure) in order to more concisely model the impact of the RGFs, by comparing Pre (no RGFs) with Post 3 (RGFs) measures.

Limitations

As with all studies, limitations arise due to the circumstances around live market testing, as well as the testing effects that occur, regardless of the method used, when live subjects provide information on their attitudes and behaviours. Recognition of these factors at both the design and analysis stages of the project ensure that appropriate decisions are made to optimize the validity and reliability of the data.

Rigorous attention to detail was undertaken at all phases of the research process with appropriate measures instituted to control for various factors potentially influencing results, including questionnaire design, regression effect, novelty effect, multi-collinearity, accuracy of self-reported behaviours and sampling biases.

- Extraneous factors, beyond the researchers' control, were anticipated at the design stage of the research. Multi-collinearity among measures, testing effect, regression effect, novelty effects and the influence of machine changes beyond the RGFs were expected and controlled for in the design, analysis and reporting for the current study.
- Another limitation is the availability of both old and new terminals, primarily affecting application of results of the RGF impact analysis. Readers are cautioned that the impact analysis is based on an evaluation of those players who voluntarily switched play to the new terminals. These players represented 34% of the sample in the current study and differed from those players who continued to play mainly on the older model terminals. Thus, there is uncertainty as to the response of

players in general once the option to play on the old terminals is no longer available. Regardless the findings provide valuable information about specific player response to the RGFs and how players, in general, respond to video lottery gaming that previously was unknown.

- Results are based on player self-reports of behaviours, attitudes and characteristics (see Section 3 below).

Section 2 – General Overview

- As Regular VL Players (those playing VL once a month or more frequently) constitute a rare population, and the roll-out schedule for the new RGF VLTs resulted in specific eligible areas for sampling, On-Site Intercept Surveys at randomly selected video lottery establishments in each of the NS target areas represented the most efficient methodology to obtain a sample of Regular VL Players. The rollout schedule and limited availability of eligible areas resulted in a sampling bias associated with on-site selection of participants. The sample is necessarily biased towards urban players and more frequent players. Urban markets have a larger pool of players to draw from. Consequently, while the proportion of high risk versus low risk players may be similar in urban and rural markets, the actual numbers of regular players are smaller at the rural sites. As high risk players play more frequently, these adults were more likely to be in the location when the sample was selected.

Section 3 – Play Behaviours & Game Outcomes On A Per Session Basis

- Gathering accurate information on a per session level for play is difficult. VLTs are not currently configured to track behaviour or outcomes on an individual session basis, and instead only provide aggregate outcomes for a limited number of inputs (e.g., coin in/coin out, payout percentages). Due to the information objectives of the current study, an observational approach could not provide the necessary data for analysis of play sessions, therefore, a self-report method (pseudo-diary approach) was used. While self-reporting via survey or in-person interviews can be subject to various testing effects resulting in inaccuracies, this was recognized at the design stage and specifically minimized by extensive testing of the questions used (qualitative, focus group testing, one-on-one interviews, pilot testing). As demonstrated in previous research conducted by Focal Research with video lottery players, and ensured in the testing stages of the current project, self reports of play behaviours can be highly accurate under certain conditions such as when:
  - The questions are salient to how players behave;
  - The information refers to specific events that are relevant and are session specific rather than non-specific or generalized;

  - Such behaviours are in "memory" rather than based on priori theories about how players think they respond;
  - Questions are non-threatening without any value-laden connotations which may bias or influence player reporting.

- Given the availability of both old and new terminals at all locations throughout the study, comparison by total plays on old or new terminals is not appropriate. A similar number of observations (≈4) were included for all players regardless of how often the individual players takes part in video lottery. For example, Problem Players typically play more often (≈ 8 versus 4 times) and for longer periods of time (120 minutes versus 60 minutes) than the lower risk players and, consequently, will account for the majority of the times VL games are played despite the fact that they only represent a minority of the players on the sample (18%). Simply weighting the observations to reflect the proportion of plays accounted for by each group is also inappropriate, due to the small sample sizes for those players exerting the strongest influence on the results. Therefore, the results are examined and compared based on player status within plays on each type of terminal. It should be kept in mind that these are the only groups which are mutually exclusive. Players could have played on any combination of old or new terminals for the last time played over the four waves of the study. Therefore, in conducting tests of significance for changes in responses between the old and new terminals, it was necessary to use dependent paired t-tests to ensure that results differed for those who played on both types of terminals, as well as for between-group differences.

Section 4 – Impact Of RGFs On Session Length & Expenditure

- The approach used for this analysis (GLM with covariates) is considered exploratory, but was the most suitable method for addressing the limitations on the Pre versus Post measures (e.g., regression effect, change in rate of expenditures, machine changes beyond RGFs). One limitation is the availability of suitable measures. As the questionnaire was not designed with this analysis approach in mind from the beginning, certain variables desirable for the model may not have been measured. Other variables may not have been suitable for inclusion, or limited in the information provided (e.g., all players who switched to the new machines were exposed to the on-screen clock so the influence of exposure to this RGF could not be quantified in this analysis). Sample sizes also limited the suitability of some key variables, e.g., the problem play measure based on the CPGI continuum was necessarily collapsed to a dichotomous variable (Low risk = score of 0 or 1 versus High risk = score of 2 or 3) and, thus, it was not possible to differentiate between Moderate Risk and Problem Players for the Switchers included in this analysis. However, the advantages afforded by this approach include the ability to control for various confounding factors and isolate the effects of the RGFs, if any, among the other variables. The analysis allows us to determine key contributors to changes in session length and expenditures and the magnitude of the effects accounted for by each RGF.

The Nova Scotia VL Responsible Gaming Features Research provides NSGC and ALC with valuable information for use in on-going planning for the VL responsible gaming program.

While readers are cautioned as to the limitations of the current research study in generalizing results to all players, the findings are promising in assessing the potential for machine based interventions in mitigating excessive play and minimizing any negative consequences associated with involvement in problem VL play.

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The Nova Scotia Video Lottery Responsible Gaming Features Study has benefited from the cooperation and assistance of many individuals and groups across the province.

We wish to acknowledge and thank all those who contributed to this important and challenging research including the retailers, VLT site-holders and service staff, ALC's sales and marketing, technicians, and research personnel, NSGC's project team, the players participating in the study, our professional interviewers and support staff. We also thank the Nova Scotia Department of Health, Addictions Services and our colleagues and associates at Dalhousie University for methodological review and analytical evaluation.

Any errors are solely the responsibility of the principal investigators at Focal Research Consultants. The opinions expressed in the reports are those of the authours and do not necessarily reflect the views or policies of the Nova Scotia Gaming Corporation or the Atlantic Lottery Corporation.

Market
Research
& Development

ATLANTIC LOTTERY CORPORATION
VIDEO LOTTERY RESPONSIBLE GAMING FEATURE RESEARCH - FINAL REPORT

October, 2002

GENERAL OVERVIEW

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GENERAL OVERVIEW

> ***"The responsible gaming features [on the new and modified video lottery terminals] are a first in North America and are intended to help discourage excessive play, having been designed to provide important reality checks and interruptions alerting players to the amount of time [and money] being spent during a specific play session."*** [1]

The General Overview for the 2001/2002 NS Responsible Gaming Features Study provides descriptive contextual information for evaluating the impact of the RGFs on player behaviour, attitudes and game outcomes. This "big picture" view tracks changes in responses over the course of the introductory period for the new terminals, thereby contributing to a more comprehensive understanding of the potential effects of the modifications in influencing behaviour and outcomes.

Summary and Discussion

Section 2 provides a descriptive overview of general player response toward the new terminals and responsible gaming features (RGFs) over the introductory phase of the new machines. The playing patterns, attitudes, perceptions and characteristics of participating Regular VL Players (n=164) are profiled and compared over the four waves of the study. The Pre Survey conducted during June 2001 established benchmark measures that were tracked at approximately two-month intervals until the final Post 3 Survey in February 2002. Results are examined by adoption of play on the new terminals (Adopters versus Non-Adopters) and by risk for problem gambling using the Canadian Problem Gambling Index (CPGI: No Risk, Low Risk, Moderate Risk, Problem Play).

Primary Segmentations

Play of New Terminals

Type of Player	Description	Sample Size	% of Players (n=164)
Adopter	By the final Post 3 Survey (Feb 2002) majority of times played in the last month were on the new terminals (75%+ of total times played)	75	46%
Non-Adopter	By final Post 3 Survey continued to play mainly on the older model terminals	89	54%

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[1] Atlantic Lottery Corporation Schedule A – Project Proposal Addendum, May 17, 2001

Risk For Problem Play

Player Status (based on CPGI classification)	CPGI Score	Sample Size	% of Players
No Risk	0	47	29%
Low Risk	1-2	48	29%
Moderate Risk	3-7	39	24%
Problem Player	8+	30	18%

Key Findings

Demographic Characteristics

The descriptive summary in Section 2 is of value in determining how the introduction of the modifications was perceived by the various player groups, whether any concomitant changes occurred in play behaviours and outcomes, and whether these changes were related to play of the new terminals and/or risk for problem gambling.

- **Overall, the profile of participating Regular VL Players is consistent with other research conducted in Nova Scotia. Due to the use of on-site intercepts in generating the sample, a frequency bias of including those who are playing most often at the time of the intercept is evident. Thus, the current sample is skewed towards the profile of more frequent Regular VL Players with a deliberate sampling bias towards urban players in order to accommodate the distribution of new terminals during the initial stages of the Phase 1 VLT Replacement Plan.**

- Sampling also had an impact for the profile of rural respondents. In the rural locations, the bias towards more frequent players also contributed to an increased selection of Problem Players. Urban markets have a larger pool of players to draw from. Consequently, while the proportion of high risk versus low risk players may be similar in urban and rural markets, the actual numbers of regular players are smaller at the rural sites. Since those at higher risk play more frequently, these adults were more likely to be in the rural locations when the sample was selected. Thus, the sample of rural participants is skewed towards higher risk players.

- **The new machines did not appear to attract any particular demographic group of Regular VL Players, with no differences observed in the demographic characteristics of Adopters or Non-Adopters.**

- Although this is the first time the CPGI has been used to classify regular gamblers in Nova Scotia, the results are similar to previous research conducted within the province. For the most part, Problem Players tend to have similar profiles to Regular VL Players in general. While sample sizes among the four CPGI segments are too small to detect statistically significant differences, there is evidence to support previous findings that risk for problem gambling is more often associated with lower education levels and middle age adults (40-59 years). Again, Regular VL Players who are younger, those who are married or involved in a spousal relationship, and those with university education tend to exhibit lower risk levels for problem gambling. Regardless, in the current study, with the exception of rural area of residence, there are no significant demographic differences influencing the results.

Player Profiles (Pre-Survey Benchmarks)

- *Participating Regular VL Players:*
  - tend to play VL games at least once per week (77%), on average playing about 8 times per month;
  - have been playing on a regular monthly basis on average for approximately 5 years, with only 27% having taken up regular play in the last two years;
  - typically play for almost two hours each time they play (112 minutes);
  - median amount spent per month playing VL games is $240.00;
  - usually set a time and/or money budget before starting to play (76%);
  - are evenly divided between typically playing in locations with and without a visible clock;
  - tend to wear watches (65%).

In general, the new terminals tended to attract VL players who were already playing at higher levels than those who continued to play on the older model VLTs. These players were also more likely than Non-Adopters to be spending beyond desired time and money limits, and more often losing track of time and money suggesting such players are a key target group for the RGFs.

- *By Adoption of the New Terminals (Adopters versus Non-Adopters):*
  - Those who adopted play on the new terminals were more likely to have been more involved in VL play before the new machines were introduced, playing more frequently each month (9 times versus 7 times), for longer periods (135 minutes versus 93 minutes) and, on average, spending twice as much money out-of-pocket each month on the games.
  - At the time of the Pre Survey, Adopters were also significantly more likely than Non-Adopters to report the following behaviours during play:
    - Losing track of time (46% versus 31% of times played)
    - Losing track of money (26% versus 17%)
    - Spending more time (49% versus 30%) and especially money (63% versus 35%) than wanted/intended
    - Chasing losses (44% versus 33%)
    - Cashing out and then continuing to play (60% versus 50%)

- *By Risk for Problem Gambling (CPGI Classification):*
  - With the exception of how long players have been involved in regular play, all other measures increased with risk for problem gambling, including frequency of play, average number of times played per month, length of play, amount of money spent per session and monthly expenditure.

- Problem Players typically reported playing twice as many times each month than lower risk players (11.7 times versus ≈6.5 times) with Moderate Risk Players falling midway between at about 8-9 times per month.

- On average, Problem Players spend about 3 hours each time they play (173 minutes), versus about 2 hours for Moderate Risk Players (129 minutes), 1½ hours for Low Risk (97 minutes) and 1¼ hours for No Risk Players (76 minutes). Thus, **the length of time spent per session by Problem Players is at least one-third higher than even Moderate Risk Players, and twice as high as those in the lower risk groups.**

- Given the combined effects of how often they play and the longer session lengths, **average monthly expenditures for Problem Players participating in the study were twice as high as the amounts spent by Moderate Risk Players, and about three times that by those at lower risk.**

- **Not surprisingly, Problem Players are significantly less likely than the other players to set a budget for play (60% versus 77 to 81%).** It appears that, given their tendency to spend beyond desired limits the vast majority of times played (89%), they are deriving little benefit from any self-directed efforts to moderate their spending.

- In terms of behaviours contributing to time and money spent, there were also concomitant associations with increased risk for problem play such that in the majority of play sessions, **Problem Players:**
  - **Lose track of time (62%) and, to a lesser extent, money spent (51%);**
  - **Spend more time (82%) and money (89%) than was intended;**
  - **Are chasing losses (83%).**

- In general, all higher risk players are more likely to cash out and continue playing during a single play session (≈64% versus 37% to 47%) with no differences observed among any of the player groups in the frequency of running credits down to zero at least once during play (≈60% of times played).

As expected, almost all play behaviours related to frequency of play and time and money spent increase with risk for problem gambling. As a result, Problem Players participating in the study, on average, spend two to three times more money per month on VL gambling than those Regular VL Players in any other risk group.

Changes In Key Indicators – Time and Money Spent (Wave 1 to Wave 4)

- The average amount of time spent per play session remained stable for total players, but a significant decline was observed for Adopters (Pre: 135 minutes per session versus Post 3: 116 minutes). Given the stability of session length for the other segments, the results suggest that **adoption of play on the new terminals is associated with reduced length of play.**

- **Despite a significant decline in session length for Adopters, average expenditure per session has remained stable on the new terminals.** Thus, there appears to be an increase in the rate of expenditure on the new terminals with those adopting regular play spending similar amounts of money as on the older model terminals, but doing so during shorter time periods.

- For all other players, the amount of time and money spent each time they played was stable over the course of the study.

Typical Play Behaviours

While time and money spent are key indicators for game outcomes, there are a number of play behaviours that influence these outcomes:

- Losing track of time or money while playing
- Spending more time or money than intended or desired
- Chasing losses
- Cashing out and continuing to play
- Running credits down to zero before putting in more money

The frequency of engaging in some these behaviours impact the players' potential exposure to the RGFs, specifically the pop-up reminders and mandatory cash out feature (e.g., cashing out or running credits down to zero which resets the clock tracking continuous play).

- For all participating players, the frequency of losing track of time and/or money while playing (Post 3: 15% and 10% of the times playing VL games, respectively), and the frequency of spending more time and/or money than intended (Post 3: 28% and 40% of times played), declined over the course of the study. The drops primarily occurred at the Post 1 measure, **indicating that exposure to the RGFs (on-screen clock, cash amounts instead of credits) may have contributed to the improved manageability of time and money.** (A testing effect may also have influenced results to some degree such that participation in the study heightened players' awareness of the time and money they were spending.)

- **Play on the new terminals was associated with improvements in reported control over expenditure.** For Adopters only there was a significant decline over the course of the study in frequency of overspending (50% versus 63% of times played), although Adopters continue to spend beyond desired limits more frequently than Non-Adopters.

- There were no changes noted for the frequency of cashing out and continuing to play (51%), chasing losses (38%), and/or letting the credits run down to zero before putting in more money (61%). **This means that players tend to cash out during play or let the credits run out during the majority of times they play VLTs, and that these behaviours are fairly entrenched and stable over time.**

- The frequency of cashing out during a play session increases with the risk of developing problems, such that Problem Players tend to cash out at least once during the majority of times they play.

- **For most play sessions, these behaviours preclude exposure to pop-up reminders as they interrupt machine-recognizable periods of continuous play, particularly for Problem VL Players.** This greatly limits the effectiveness of the pop-up message RGFs, particularly those scheduled after longer periods of uninterrupted play (90, 120, 145 and 150 minutes).

Awareness, Liking & Perceived Effectiveness Of The RGFs

- Nearly three-quarters of participating VL players (72%) had already heard about or seen the new or modified terminals at the Pre measure. **By the final wave, 98% were aware of the new machines, and 90% to 97% knew of the individual RGFs.** For most features, awareness was similar for Adopters and Non-Adopters and among the four risk groups, regardless of trial or monthly play on the new machines, reflecting the sharing of information on the new features by word-of-mouth or observation.

- **The most preferred features among all players were the on-screen clock (60% like it), playing with cash amounts instead of credits (58%) and the bill acceptors (52%), the latter of which was considered most appealing by the Problem Players (60% versus 49%).**

- For the most part, all of the above features can be seen to facilitate players' interaction with the machines providing easy access to time checks, minimizing issues associated with getting change or translating credits into dollar values.

- **In contrast, players were less enthusiastic about the pop-up messages and mandatory cash out, with liking ratings ranging from a low of 30% to a high of 37% for the 60-minute reminder.** As exposure to and/or direct experience with the RGFs increased, the average liking ratings significantly declined for all of the pop-up reminder messages.

- **Liking of the pop-up messages and mandatory cash out declined with risk for problem play and was lower among the Adopters versus Non-Adopters.** As both higher risk players and Adopters had greater exposure to the behaviour-triggered RGFs, the findings suggest that these features may become more annoying over time as players have greater exposure to the messages. Given that the preferred features tend to facilitate play, it is not surprising that those features that interrupt play are rated less favourably.

- Perceived effectiveness of the RGFs was more conservative than liking ratings, but remained steady throughout the study as opposed to declining. **Those RGFs to** which all players were exposed (cash instead of credits, on-screen clock) were perceived as more effective than the pop-up reminders (behaviour-activated features). Again, this is not surprising as the pop-up messages and cash out feature will only be relevant for some players under specific conditions.

- For the most part, effectiveness ratings are similar for players across all segments, including for No Risk and Problem Players. This suggests that the perceived effectiveness of the features may not be strongly related to players' actual experiences in losing track of time or money while playing VL games.

- **The display of betting activity in cash amounts instead of credits received the highest rating in terms of assisting players to keep track of money (46%)** with no differences among any of the player groups.

- The on-screen clock received the second highest rating for effectiveness (39%) but was rated more favourably by those who adopted regular play on the new terminals (47% versus 33%). Given that the vast majority of Non-Adopters had experience playing the new terminals, **the results suggest that the increased familiarity with the new machines by Adopters may be leading them to make more effective use of the clock.**

- **It is noteworthy that players generally rate the bill acceptor as more effective (31%) in assisting them to manage time and money spent than the pop-up messages (18% to 26%) or mandatory cash out (19%).**

- The relatively high effectiveness rating for the bill acceptor may be unexpected, as this modification was not introduced as an RGF. However, it appears that for almost one-third of players the ability to insert "bills" rather than just "coins" appears to offer some value in keeping track of money spent. This may be especially true for those who set budgets for play. However, before interpreting this modification as an improvement, it is necessary to assess whether the benefits afforded some players are offset by the negative effects for others.

Play Of The New Terminals

- Trial of the new machines reached 84% of participating players by the Post 3 measure. About 1 in 7 (14%) were aware of the new machines, but did not try playing them, primarily due to lack of interest and satisfaction with the old (preferred) games/machines.

- Continued adoption, i.e., the percentage of trial players who continued playing during the last month, is high for the new machines at 85% during the final Post 3 Survey.

- Over the course of the study, Problem Players have played on the new machines on average more frequently than lower risk players (55 times versus ≈10 to 20 times). However, the average number of times played in the last month is similar across all four risk groups (4 to 5 times). Moreover, with the exception of No Risk Players, the percentage having tried the new terminals (82% to 93%), or having played in the last month (74% to 77%) are similar in all player groups. **This suggests that, despite the skew towards attracting those players most involved in VL play, the new machines did not specifically attract players at the higher levels of risk for problem play. In fact, these players were equally likely to have come from the Low, Moderate and Problem Player groups.**

Exposure To On-screen Clock During Play

- **Almost all players who tried the new machines recall seeing the on-screen clock (94%), yet only 22% refer to the clock on a frequent or continuous basis while playing, similar for players regardless of CPGI risk level.** Nearly one-third (31%) of all participating VL players report that they never referred to the on-screen clock while playing. However, 80% of this group usually wear a watch, compared to only 52% of those who at least sometimes referred to the clock.

- Players tend to refer to the clock with a similar frequency during play, regardless of how long their typical play session on the new machine lasts (i.e., similar in all four CPGI risk groups). **However, those who play most frequently on the new terminals refer to the on-screen clock more often while playing than those who primarily play on the old machines. This suggests that familiarity with the new machines and most likely the feature itself leads to increased use.**

Exposure to Pop up Messages and Mandatory Cash out

- **The majority of participating VL players (54%) have first hand experience with at least one of the pop-up reminder messages, representing nearly two-thirds (64%) of those who have tried the modified terminals.**

- Adopters are significantly more likely than Non-Adopters to have seen each of the pop-up messages. However, even without taking up regular play on the new terminals, nearly half of all Non-Adopters who tried the new machines saw the 60-minute message. Approximately 1 in 5 Adopters had played the new terminals at least once for 145 continuous minutes, and 17% were exposed to the mandatory cash out feature that is triggered at 150 minutes of continuous play.

- **Exposure for each of the pop-up messages increases with risk level for developing problems with VL play.** The majority of Problem Players who tried the modified terminals (51%, or 47% of all participating Problem Players) saw the 120-minute pop-up message on at least one occasion, versus 28% or less for the lower risk groups. Problem Players are also most likely to have seen the 5-minute mandatory cash out warning after 145 minutes of play, and were the only group for which some players (10%) acted on the warning and cashed out prior to experiencing the mandatory cash out feature.

Liking Of The New Terminals

- Those who have tried the new terminals are fairly evenly divided in their preference for one type of machine over the other. Not surprisingly, Adopters are most enthusiastic with 52% liking the new machines versus 20% indicating preference for the old. For Non-Adopters, the old terminals are preferred twice as often (48% versus 24%). Preference levels are similar for players in all four CPGI risk groups.

- **The overwhelmingly preferred feature of the new machines is the new and different/variety of games available (51% of all participants).**

- **More than one-quarter of participants (27%, or one-third of all trial players) report that there is nothing in particular they dislike about the new machines. The top three disliked aspects are each mentioned by only 10% of participants, including a dislike of the new games, the odds of winning, and/or the bill acceptors.** When asked to specify any improvements to the new terminals, 31% of participants were unable to offer any suggestions. **However, one in five trial players would like to see one or more of the new features removed, and 8% specifically noted the pop-up reminders.**

Perceived Effect Of The New Machines On Reducing Time/Money Spent Playing VL

- Overall, the majority of players in every segment believe that the new machines with RGFs will have little to no effect on reducing either the time or money spent playing video lottery games. **However, almost one in every 6 players who have ever tried the new machines, and one-quarter of those adopting regular play, believe the new machines will have at least some effect in mediating their play.**

- Compared to lower risk players (particularly those at Moderate Risk), Problem Players are more inclined to believe the new terminals will have some effect on reducing the time spent playing (30% versus 6% to 19%).

Discussion

In general, the new machines neither targeted nor discouraged trial or monthly play in any one risk group of players. However, those attracted to regular play of the new terminals tended to be playing at higher levels than Non-Adopters and took up play primarily in response to the new games offered. These players also more often reported difficulties in managing time and money spent, underscoring the potential value of including RGFs on new terminals/games. Players are very evenly divided among preference for the old or new terminals, suggesting that not all players will be happy to lose their "old" favoured machines. For all those who tried the new terminals, the most preferred feature is the variety of new games, which attracted players from all CPGI risk groups. Typical VL play patterns, including frequency of play, are fairly entrenched and appear to have remained stable whether players adopted play on the new machines or stayed with the old. The on-screen clock is used equally by players in all groups, and is referred to most often by those who do not wear a watch. Players like the clock but do not perceive it as particularly effective in assisting them to manage the time spent playing. Increased awareness and familiarity with the clock was associated with greater utility of the feature, thus, improvements are expected to occur as player acclimate to the availability of an on-screen clock. Play of the new machines was associated with a significant reduction in length of play, however, expenditures have remained stable. This suggests that the speed or rate of expenditure on the new terminals is faster on the new machines than on the older models. Exposure to each on-screen message and mandatory cash out feature increases with the level of risk. However, play behaviours that reset the internal timing mechanism triggering the pop-up reminders occur during the majority of plays, particularly with Problem Players running the credits down to zero or cashing out and then continuing to play. The frequency of such behaviours has remained stable throughout the study and will be a major obstacle to repeated exposure and, thus, the potential effectiveness of the pop-up messages in influencing players' behaviours during a given session of play.

Introduction

Section 2 provides a descriptive summary of general player response toward the new terminals and responsible gaming features (RGFs) over the introductory phase of the new machines. The playing patterns, attitudes, perceptions and characteristics of participating Regular VL Players (n=164) are profiled and compared over the four waves of the study. The Pre Survey, conducted during June 2001, established benchmark measures that were tracked at approximately two-month intervals until the final Post 3 Survey in February 2002. Results are examined by adoption of play on the new terminals (Adopters versus Non-Adopters) and by risk for problem gambling using the Canadian Problem Gambling Index (CPGI: No Risk, Low Risk, Moderate Risk, Problem Play). **This descriptive summary is of value in determining how the introduction of the modifications was perceived by the various player groups, whether any concomitant changes occurred in play behaviours and outcomes, and whether these changes were related to play of the new terminals and/or risk for problem gambling.**

Background

In May 2001, the Nova Scotia Gaming Corporation (NSGC), through the Atlantic Lottery Corporation (ALC), introduced new video lottery terminals with responsible gaming features (RGFs) in various sites across Nova Scotia. This initiated the first of three phases comprising the VLT Replacement Plan scheduled to occur over a two to three year period. Phase 1 took place from May 2001 to January 2002, during which time 1000 new model terminals and approximately 400 upgraded older model terminals were rolled-out in specific locations and communities throughout the province.

An important component of the VLT Replacement Plan was an evaluation of the impact of the responsible gaming features (RGFs) during the introduction of the new terminals in order to:

- **assess awareness of and exposure to the features;**
- **determine the effect of the RGFs on player behaviours, perceptions and attitudes;**
- **identify what, if any, changes or improvements are recommended to enhance the effectiveness of the features in mitigating excessive play.**

RGFs are designed to alert players to the amount of time and money being spent during play and include:
- **On-screen clock**
- **Display of cash rather than credit amount**
- **Pop-up messages after specific times of continuous play (60, 90 and 120 minutes)**
- **Warning and mandatory cash out after 145 and 150 minutes of continuous play**

In May 2001, Focal Research Consultants was awarded the project based on the submission of a comprehensive multi-phased research plan. For detailed information regarding research design, rationale, and methodology refer to Section 1 of the Technical Report for the 2001/2002 Video Lottery Responsible Gaming Features Study.

Purpose of Overview Analysis

The responsible gaming features on the new and modified terminals in Nova Scotia are intended to assist players in managing time and money spent while they are taking part in the activity.

Specifically, the features are designed to target those individuals involved in excessive play (dollars and time spent beyond desired and/or affordable levels) while having a minimal impact for those players taking part at "responsible" or low risk levels.

Both the on-screen clock and display of cash rather than credits are intended to serve as "reality checks" for all players. Exposure to the pop-up reminders and mandatory cash out are behaviour triggered.

The modifications include two features that all players are exposed to during play on the new terminals, an on-screen clock and the display of betting activity in the form of cash rather than credits. In addition, there are behaviour-triggered features comprised of pop-up messages and a mandatory cash out that are only activated if a player meets a certain threshold for continuous play (i.e., pop-up reminders at 60, 90 and 120 minutes, mandatory cash out warning at 145 minutes, cash out at 150 minutes).

The primary purpose of the current research study is to assess the impact of the RGFs on the amount of time and money spent playing video lottery. However, it is first necessary to understand response to the new and/or modified terminals within the context of general playing patterns and associated game outcomes.

This information not only provides the necessary measures for use in modeling the impact of the RGFs (refer to Section 4 - Impact Analysis) but also establishes benchmark measures for profiling and tracking any changes in responses as players became more familiar with the new terminals.

Procedure

Research Design

As part of the research process designed and conducted by Focal Research Consultants, a series of surveys were undertaken to benchmark and track the responses of Regular VL Players over the course of the introductory phase for the new terminals.

RESEARCH DESIGN

- On-site Intercept (May 2001)
- Pre Survey (June 2001)
- Post 1 Survey (Sept 2001)
- Post 2 Survey (Nov 2001)
- Post 3 Survey (Feb 2002)
- Analysis (March - Aug. 2002)

This approach was adopted due to a number of methodological challenges in isolating and identifying the effects of the RGFs. Specifically, the following issues had implications for study design, analysis and how the results can be applied:

- **The rollout for the new and modified terminals occurred over the whole province** precluding the option of using a test and control market design.
- **The rollout was scheduled to occur in stages in various communities over the course of the introductory period,** thus, the amount of exposure to the new terminals would vary among locations/areas in the province depending on when the new machines were installed.
- **Only one or two new or modified terminals would be installed and available for play at each site** meaning that, throughout the study, players could be accessing either "old" or "new" terminals and that various factors, including preference and accessibility, would be moderating play decisions.

- **The new terminals differed from the older model terminals on more then just the RGFs.** Along with the responsible gaming features, the new and modified terminals had additional modifications including a bill acceptor, new games and other technology and graphic improvements or changes which could be expected to influence player response.

- **The novelty effect of the new terminals could be expected to exert an influence**, initially leading to higher rates of trial and other changes in behaviours as players became familiar with the new games/machines.

To address the above issues, a pre/post return-to-sample methodology was used. The benchmark survey was conducted in June 2001, followed by three post surveys at approximately two-month intervals, with the final Post 3 Survey conducted in February 2002. The primary base of comparison consists of changes between the Pre and Post 3 Survey. However, key indicators are tracked over all four waves to gain greater insight as to the cumulative effects of on-going exposure to the new terminals and responsible gaming features.

In addition, at each wave of the study, a pseudo-diary method was used to gather specific play behaviour for the last time played. This information is examined by risk for problem gambling for those plays that occurred on the old terminals versus the new terminals (refer to Section 3 - Play Behaviours and Game Outcomes On a Per Session Level).

Sampling

Only those respondents who played VL games over the course of the study and completed all four surveys were included in the analysis (n=164).

Regular VL Players constitute a rare population, comprising approximately 6% of the adult population in Nova Scotia. Due to the rollout schedule for the new and modified VLTs, only certain areas/communities in the province were eligible for sampling during the trial period. Therefore, study participants were sampled through on-site intercepts at randomly selected video lottery establishments, in each of the target areas. Players were briefly screened on-site to determine preliminary eligibility and then were re-contacted by telephone to complete the Pre Survey. Only permanent residents of Nova Scotia, playing VLTs on a regular monthly basis at qualified locations were included in the sample. Of a total initial sample of 321 eligible participants, 222 took part in all four waves of the study yielding an overall attrition or "drop-off" rate of only 30.8%. This means that 69.2% of the original qualified sample continued to participate over the full course of the study.[2]

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[2] The profile of those dropping out of the study was compared to retained participants with no statistical differences observed among any of the key player groups, area of residence or for demographic characteristics. The only exception was that Infrequent or No Risk Players were more likely to have dropped out than Frequent or Problem Players and, thus, there was a slight skew towards more frequent players in the retained sample (See Section 1 of the Technical Report).

The results are examined at a total player level, by adoption of the new terminals and by risk for problem gambling.

There were 222 regular players who took part in all four waves of the survey. Of these 222 respondents, there were 58 individuals (26% of the sample) who, by the final wave of the study, had stopped playing video lottery games or had not played during the last month and, thus, were excluded from the tracking analysis.[3] Overall, only the information gathered for the 164 Regular VL Players who completed all components of the study was used to assess any changes in response over the course of the introductory phase for the new VLTs.

Results

The results for those Regular VL Players participating in all 4 waves of the study were examined at a total player level (n=164) and by two primary segmentations:

- Adoption of play on the new terminals (Adopters versus Non-Adopters)
- Player Status (Canadian Problem Gambling Index, CPGI, classification of No Risk, Low Risk, Moderate Risk and Problem Play)

ADOPTION SEGMENTATION

- Adopters (n=75) by Wave 4 played primarily on new terminals
- Non-Adopters (n=89) by Wave 4 played primarily on old terminals

Adoption of Play on the New Terminals

"Adopters" are defined as those who, during the final wave of the study, were playing VL games on the new terminals 75% or more of the times they played video lottery in the last month. This group is compared to "Non-Adopters", who did not adopt play on the new machines but instead continued to play mainly on the old terminals. This segmentation allows for the examination of player behaviours and outcomes for those who have had the greatest exposure to the new machines and features compared to those who primarily played VL games without RGFs.

PLAYER STATUS (CPGI) SEGMENTATION

- No Risk (n=47)
- Low Risk (n=48)
- Moderate Risk (n=39)
- Problem (n=30)

Player Status (CPGI Classification of Risk for Problem Gambling)

The Canadian Problem Gambling Index (CPGI) was used as a measure of risk of developing problems with gambling among participating VL players. The CPGI was recently developed under the aegis of the Canadian Centre on Substance Abuse for the Inter-Provincial Task Force on Problem Gambling. Unlike its predecessors such as the South Oaks Gambling Screen (SOGS) and the DSM-IV, the CPGI was designed specifically for screening in the general population.[4] The CPGI is based on cumulative scores on a 9-item set of measures, and was validated for use in the general population in January, 2000.[5]

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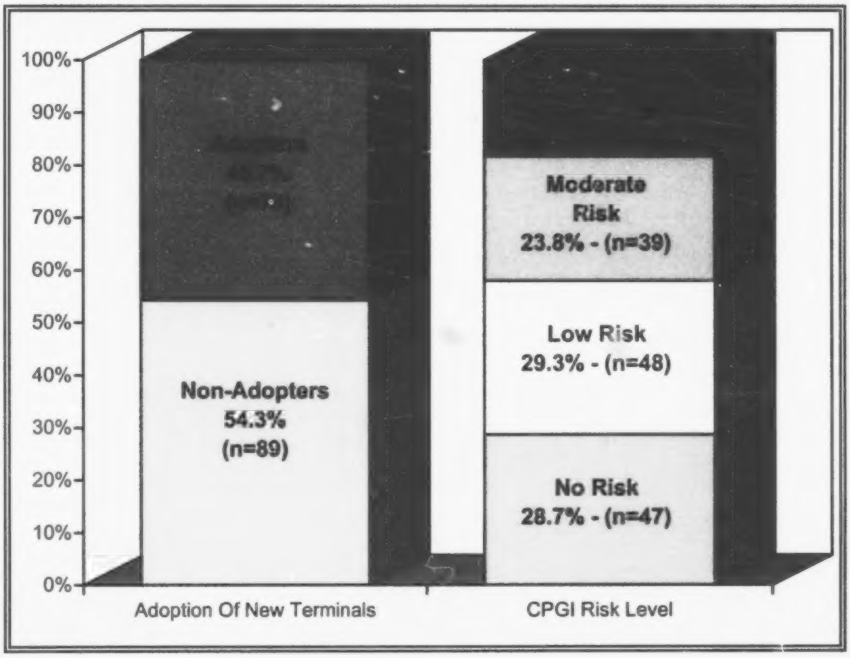
[3] This level of "lapsed" play is consistent with the results of the 1997/98 NS Regular VL Players Survey conducted by Focal Research examining the turnover rate in the regular player base in Nova Scotia., in which it was estimated that in a given year approximately 25% of regular players are either stopping or starting play (Section 2 - Overview of Play in Nova Scotia, pp.2-5).

[4] 2001 Survey Of Gambling In New Brunswick, Focal Research Consultants Ltd. for the New Brunswick Department Of Health & Wellness, 2002.

Table 2.1 – CPGI Risk Continuum

CPGI Score	Risk
0	Non-Problem
1-2	Low Risk
3-7	Moderate Risk
8+	Problem Gambling

Figure 2.1 – Player Groups (Segmentation) - Total Players (n=164)



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[5] Ferris, J., and Wynne, H. (2000). Validating the Canadian Problem Gambling Index: Report on the Pilot Phase of Testing, January 10, 2000. Canadian Centre on Substance Abuse.

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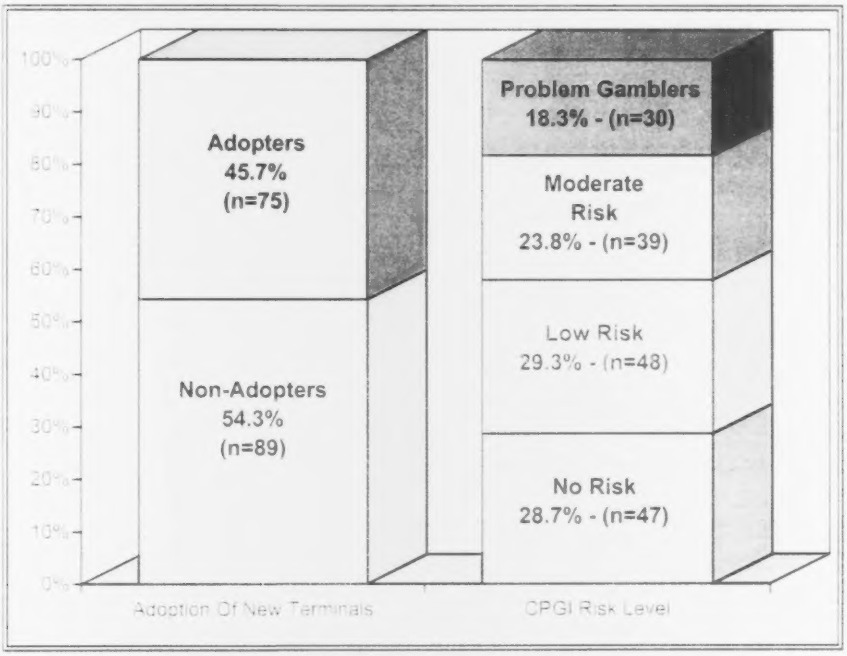

Ferris, J., and Wynne, H. (2000). Assessing the Canadian Problem Gambling Index: Report on the Pilot Phase of Testing, January, 2000. Canadian Centre on Substance Abuse.

Study participants were almost evenly divided between those who had taken up play on the new terminals with RGFs (Adopters: ≈46%, n=75) versus those who continued to play primarily on the older model machines (Non-Adopters: ≈54%, n=89).

The only notable difference in adoption of the new terminals, among the player segments, was observed at either end of the risk continuum.

Problem Players were more likely to have taken up play on the new terminals while No Risk players were more likely to be Non-Adopters, playing primarily on the old terminals.

Low Risk and Moderate Risk Players were equally likely to be Adopters or Non-Adopters.

In fact, there were no significant differences in adoption rates among those at any level of risk for problem play (≈50% to 67%) with No Risk Players least likely to have switched over to the new machines (25%).

Based on the nine items comprising the CPGI classification of risk for problem gambling, sufficient sample sizes were obtained to profile and compare findings among the four risk groups. Findings are consistent with other research in Nova Scotia in which approximately 16% of the regular player base were characterized as Problem VL Gamblers.[6] To enhance the sensitivity in testing for differences, the following options are also available for comparison:

- **Non-Problem versus Problem Players:** ≈82% (n=134) of those VL players who took part in all phases of the research fall into the non-problem categories (No Risk: 29%, Low Risk: 29% Moderate Risk: 24%), with 18% (n=30) scoring as Problem Players.
- **No Risk versus Any Level of Risk For Problem Play:** Only 29% (n=47) qualify as No Risk Players which means that 71% (n=117) of all respondents are at some level of risk for problem gambling.
- **Lower Risk versus Higher Risk For Problem Play:** Respondents are slightly skewed towards those with lower levels of risk for problem play (No Risk & Low Risk Players=58%, n=95) versus those at higher levels of risk (Moderate Risk & Problem Players=42%, n=69).

Table 2.2 – Overlap Between Play Of New Machines & Player Status Groups

	Non-Adopters		Adopters		TOTAL	
	n=	%	n=	%	**n=**	**%**
No Risk (n=47)	35	21.3%	12	7.3%	**47**	**28.7%**
Low Risk (n=48)	24	14.6%	24	14.6%	**48**	**29.3%**
Moderate Risk (n=39)	20	12.2%	19	11.6%	**39**	**23.8%**
Problem Players (n=30)	10	6.1%	20	12.2%	**30**	**18.3%**
TOTAL (n=164)	**89**	**54.3%**	**75**	**45.7%**	**164**	**100%**

It is important to note that the overlap in the risk groups and adoption of the new machines will influence some results found within each of the segments. Sample sizes are too small to profile and compare adoption of the new terminals within each risk group (8 cross-sectional groups described in the above table). However, the

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[6] NSDOH 1997/98 Nova Scotia Regular VL Players Survey, Focal Research Consultants, Section 3 - Problem Gamblers Analysis, Introduction pp. 3-1 to 3-10.

composition of each segment of interest is considered when interpreting response to key indices in the research.

Analysis

Descriptive statistics were used in the Overview Analysis including:

- Chi square tests for distribution comparisons
- Z-tests and/or t-tests for mean comparisons
- Two tailed z-tests for proportions
- Mann-U-Whitney tests for median comparisons
- Correlation Analysis (Pearson for interval level, Spearman for rank ordered level)

For detecting within-subject differences over time, dependent t-tests and unianova tests for repeated measures were used. Given the exploratory nature of the research, all tests of significance were conducted based on a 90% + confidence level for two-tailed tests of significance. When appropriate, the actual p-value is included and/or denoted by an * symbol (*=p≤ .10, **=p≤ .05, ***=p≤ .01). All analysis was conducted using SPSS version 10.0.

Presentation of Results

As specified in the RFP for the study, the following issues were examined:

- Demographic characteristics
- General playing patterns
- Changes in key indicators – frequency of play, time & money spent per session
- Frequency of typical play behaviours
  - Losing track of time or money while playing
  - Spending more time or money than intended or desired
  - Chasing losses
  - Cashing out and continuing to play
  - Running credits down to zero before putting in more money
- Response to RGFs
  - Awareness
  - Liking

  - Perceived effectiveness

- Play of the new terminals
- Exposure to the RGFs during play
- Comparative liking of the new terminals
- Preferred and disliked aspects of the new terminals
- Player suggested changes/improvements
- Perceived effect of new machines on reducing the amount of time/money spent

Demographic Characteristics

DEMOGRAPHIC CHARACTERISTICS OF PARTICIPATING VL PLAYERS

- are skewed slightly to males (55%)
- mainly between 40 and 49 years (40%), 45 years old on average
- high school education or less (60%)
- working full time (51%) or income supported (30%)
- skewed to Blue Collar occupations (40%)
- mid-range household income levels (40% between $25K and $45K)
- most are married (57%)
- skewed to having no children in the household (65%)
- mainly in HRM (66%)
- nearly half reside with another VL player

Due to the rollout schedule for the introduction of the new terminals, study participants were intercepted on-site at specific locations in three areas of the province; primarily the largest urban center in Nova Scotia, Halifax Regional Municipality (HRM: 66%), South Shore (21%) and in Northern Nova Scotia (13%) (See Section 1 - Sampling). Thus, the sample is not random or representative of all players in the province but provides a reliable cross-section of regular players to benchmark and track for changes related to exposure to the new terminals.

To assess the role of demographic characteristics in influencing play behaviours, both profile (% of each player segment) and penetration (% of each demographic segment) were examined by Adoption of the new terminals and by Player Status (CPGI). (See Appendix B)

The profile of Regular VL Players participating in the study is consistent with other research conducted in Nova Scotia, most notably the 1997/1998 Nova Scotia VL Players Survey. The primary difference between this on-site intercept sample versus players in the general population is related to a frequency bias, such that those who are playing most often at the time of the intercept survey are more likely to be selected for study participation. Thus, the current sample is skewed towards the profile of more frequent players with a deliberate and necessary sampling bias towards urban players (85%) to reflect the distribution for the new terminals with the RGFs. In comparison to regular players in the general population, participants tend to be older which is consistent with the profile for frequent players in the province.[7]

The results suggest that those players participating in the study who took up play on the new VL machines with RGFs are demographically similar to those who continued to primarily play on the old machines. **Thus, in this study, the new machines did not appear to attract any particular demographic group of VL players.**

The results also show that VL players who participated in the research are demographically similar regardless of their score on the CPGI risk continuum. Characteristics of the Problem Players resemble characteristics of those who are currently at little or no risk of developing problematic VL play. In fact, in the current sample of regular players, the only statistically significant difference apparent for higher risk players is related to urban or rural area of residence (higher risk is noted for those participants residing in rural areas of the sample markets).

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[7] In the 1997/1998 Nova Scotia VL Players Survey, 61% of Regular VL Players were under 40 years of age. However, among frequent players (those who on average play VL more than 4 times per month) the proportion falling under 40 years of age is significantly lower (≈ 39%), and does not differ significantly from results in the current study.

In part, this reflects a sampling bias associated with on-site selection of participants. Urban markets have a larger pool of players to draw from. Consequently, while the proportion of high risk versus low risk players may be similar in urban and rural markets, the actual numbers of regular players are smaller at the rural sites. Since high risk players play more frequently, these adults were more likely to be in the rural locations when the sample was selected. Thus, the sample of rural participants is skewed towards higher risk players.

Although this is the first time the CPGI has been used to classify regular gamblers in Nova Scotia, the results are similar to previous research conducted within the province. For the most part, Problem Players tend to have similar profiles to Regular VL Players in general. While sample sizes among the four CPGI segments are too small to detect statistically significant differences, there is evidence to support previous findings that risk for problem gambling is more often associated with lower education levels and middle age adults (40-59 years). Again, Regular VL Players who are younger, those who are married or involved in a spousal relationship, and those with university education tend to exhibit lower risk levels for problem gambling. Regardless, in the current study, with the exception of rural area of residence, there are no significant demographic differences influencing the results.

MARKET PENETRATION
Key Differences In Demographic Categories Falling Into Each Segment

- Players in the middle age category (40 to 49 years) are more inclined to have adopted play on the new machines (56%) than those who are younger (43%) or older (34%).
- Players living outside HRM are more likely to be playing on the new machines (57% to 59%) than those in HRM (39%).
- Players residing in urban areas of the province are skewed towards low or no risk on the CPGI continuum, while rural residents are more likely to fall into the moderate or high risk groups (caution – small sample for Rural players).
- Those with another VL Player in the household are more likely to have adopted play on the RGF machines than those without any other players (55% versus 38%).

General Playing Patterns

Profile of Playing Patterns

To identify and evaluate the differential effects of the RGFs on play, it was first necessary to establish benchmark measures of typical playing patterns within each of the primary player segments obtained during the Pre Introduction Measurement Phase (Pre Survey).

Table 2.3 – General Playing Patterns/Behaviours – By Play of New Terminals & By Player Status (Wave 1 Only)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
On average, how often do you play video lottery games, excluding any play of slots or video machines at the casino?							
		NS		**			
At least once per day	**6%**	6%	5%	2%	6%	3%	13%
At least once per week	**71%**	66%	77%	68%	60%	82%	80%
At least once per month	**23%**	28%	17%	30%	33%	15%	7%
Approximately how long have you been playing video lottery games at least once per month or more?							
		NS		NS			
< 25 months	**27%**	32%	21%	40%	27%	18%	17%
25 to 60 months	**34%**	29%	40%	34%	33%	38%	30%
61 to 120 months	**31%**	34%	28%	21%	27%	33%	50%
121+ months	**8%**	6%	11%	4%	12%	10%	3%
		NS		NS			
Average (months)	**65.0**	62.6	67.8	54.5	64.9	70.1	74.8
Median (months)	**60.0**	48.0	60.0	48.0	60.0	60.0	75.0
On average, how many times per month do you play VL machines?							
		NS		*			
Once or twice	**17%**	22%	11%	23%	21%	10%	10%
3 to 5 times	**32%**	32%	33%	30%	38%	33%	27%
6 to 10 times	**21%**	21%	20%	30%	21%	13%	17%
11+ times	**30%**	25%	36%	17%	21%	44%	47%
		**		***			
Average times/month	**8.0**	7.0	9.0	6.2	6.9	8.6	11.7
Median times/month	**6.0**	4.0	8.0	4.0	4.0	8.0	8.0

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Participating Regular VL Players:

- tend to play VL games at least once per week (71%), 8 times per month on average
- have been playing on a regular monthly basis for over 5 years, on average
- play for almost two hours each time, on average (112 minutes)
- spend a median amount of $240 in a typical month playing VL games
- usually set a time and/or money budget before starting to play (76%)
- are evenly divided between typically playing in locations with and without a visible clock
- tend to wear watches (65%).

Table 2.3 – General Playing Patterns/Behaviours – By Play Of New Terminals & By Player Status (Wave 1 Only) - CONTINUED

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
In the past month, on average, how long did you tend to play VL games each time?							
		*		*			
< 60 minutes	**22%**	27%	16%	32%	25%	13%	13%
60 to 120 minutes	**41%**	43%	39%	43%	42%	46%	30%
121+ minutes	**37%**	30%	45%	26%	33%	41%	57%
		***		***			
Average (minutes)	**112.3**	93.1	135.1	75.8	96.7	128.8	172.9
Median (minutes)	**90.0**	60.0	120.0	60.0	90.0	120.0	120.0
Typical monthly expenditure on VL games (out-of-pocket, not including winnings)							
		***		***			
< $100	**27%**	37%	15%	51%	29%	13%	3%
$101 to $200	**18%**	22%	13%	17%	23%	20%	10%
$201 to $500	**23%**	15%	32%	17%	25%	28%	20%
$501 to $1,000	**15%**	15%	15%	9%	13%	21%	20%
> $1,000	**18%**	11%	25%	6%	10%	18%	47%
		***		***			
Average	**$524.03**	$383.21	$691.33	$266.77	$384.67	$509.28	$1169.17
Median	**$240.00**	$180.00	$385.00	$100.00	$200.00	$250.00	$900.00
Do you usually set a budget or limit for playing video lottery games where you decide how much time or money you want to spend before you start to play?							
		NS		**			
YES – Money budget	**57%**	57%	56%	64%	56%	54%	50%
YES – Time budget	**1%**	--	1%	--	2%	--	--
YES – Both	**18%**	20%	16%	17%	21%	23%	10%
NO – Don't set budget	**24%**	22%	27%	19%	21%	23%	40%
Is there a clock located in or near the area where you usually play VLT's that you can see while playing?							
		NS		NS			
Yes	**44%**	42%	47%	47%	52%	36%	37%
No	**50%**	53%	47%	45%	48%	51%	60%
Don't know	**6%**	6%	7%	8%	--	13%	3%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Differences in typical VL playing patterns for Adopters versus Non-Adopters:

- Adopters play VL games more often, on average, than Non-Adopters (9.0 times versus 7.0 times per month)
- Adopters play, on average, for over 2 hours each time, versus 1½ hours for Non-Adopters
- Adopters are spending nearly twice as much money as Non-Adopters on VL games

Table 2.3 – General Playing Patterns/Behaviours – By Play Of New Terminals & By Player Status (Wave 1 Only) - CONTINUED

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Do you usually wear a watch?							
		NS		NS			
Yes	**65%**	71%	59%	72%	60%	64%	63%
No	**35%**	29%	41%	28%	40%	36%	37%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Differences in typical VL playing patterns by CPGI group:

- Frequency of playing each month increases with risk level
- Average number of play sessions per month increases with risk level
- Length of play sessions increases significantly with risk, with Problem Players playing VL games for nearly 3 hours per session (173 minutes on average), versus about 2 hours for Moderate Risk Players, 1½ hours for Low Risk and 1¼ hours for No Risk Players
- Average monthly expenditure on VL games increases with risk levels, with Problem Players spending two to four times as much as players at lower risk levels
- Problem Players (60%) are less inclined to set time/money budgets before play than Low Risk (79%) or No Risk Players (81%)

At the start of the study, those players who participated in all phases of the RGF research typically played VL games on a weekly basis (71%), on average playing 8 times in a given month. Just over one-quarter (27%) have been playing for two years or less, with one third having started playing VL games on a regular basis between 2 and 5 years ago (34%). Approximately 39% are long term regular players who have played on a monthly basis for more than 5 years.

A typical play session for participating players based on their reported play behaviours in the month prior to the Pre Survey, lasted an average of 112 minutes. Players taking part in the study on average spent approximately $524 per month playing video lottery games, although the mean is being influenced by the comparatively high expenditures of the Problem Players, as the median expenditure for all players is about half as much ($240). The strong majority (76%) usually self-impose some kind of budget or limit on the amount of money and/or time they intend to spend at the VL machines before they begin playing. Half (50%) report that there is no clock in or near the area where they usually play VLTs, although nearly two-thirds (65%) usually wear a watch.

Frequency of VL play, budgeting behaviour and the presence of clocks during play are similar for participating players who mainly played on the new machines with RGFs (Adopters), compared to those who continued to play primarily on the old terminals (Non-Adopters). However, key indices, including number of play sessions, length of play sessions and monthly expenditure patterns, differed for these two groups. At the time the new terminals were introduced, Adopters played more often on average than Non-Adopters (9 times per month versus 7 times), played for longer duration (135 minutes versus 93) and, correspondingly, had significantly higher monthly VL expenditure levels (Adopters spent nearly twice as much per month on VL games than Non-Adopters – median ≈$385 versus ≈$180). Therefore, those who were most likely to take up regular play on the new terminals with RGFs were inclined to be comprised of players who are more involved in terms of both time and money spent on video lottery.

Similar differences in playing patterns were also evident for players by the four CPGI risk groups, with the number of monthly play sessions, average session length and monthly expenditure each substantially increasing with the risk of developing problem play. During the Pre Survey, Problem Players also tended to play more frequently in a given month (weekly or daily) than those at little to no risk, and are significantly less inclined to set any type of time or money budget (60%) as compared to those at lower risk (≈80%).

Changes In Key Indicators – Frequency Of Play, Time & Money Spent Per Session

The RGFs on the new and modified terminals are designed to assist players in managing the amount of time and money being spent while they are playing video lottery. Thus, the interventions are intended to impact players' behaviours on a per session basis, ideally leading to reductions in the length of play and amount spent for those involved in excessive gambling (i.e., spending beyond desired and/or affordable play levels), while having minimal impact for those already playing at responsible or "low risk" levels. Therefore, tracking time and money spent on a per session basis was a critical requirement in the current study. In fact, the primary purpose of the research was to attempt to isolate and identify the impact of the RGFs in effecting change in session length and expenditure (See Section 4 - Impact of RGFs on Session Length and Expenditure).

The RGFs are intended to impact players' behaviours on a per session basis, ideally mediating the amount of time and money spent during play, in particular by those involved in "excessive play" (i.e., spending beyond desired/affordable levels). Thus, session length and expenditure comprised the critical tracking measures.

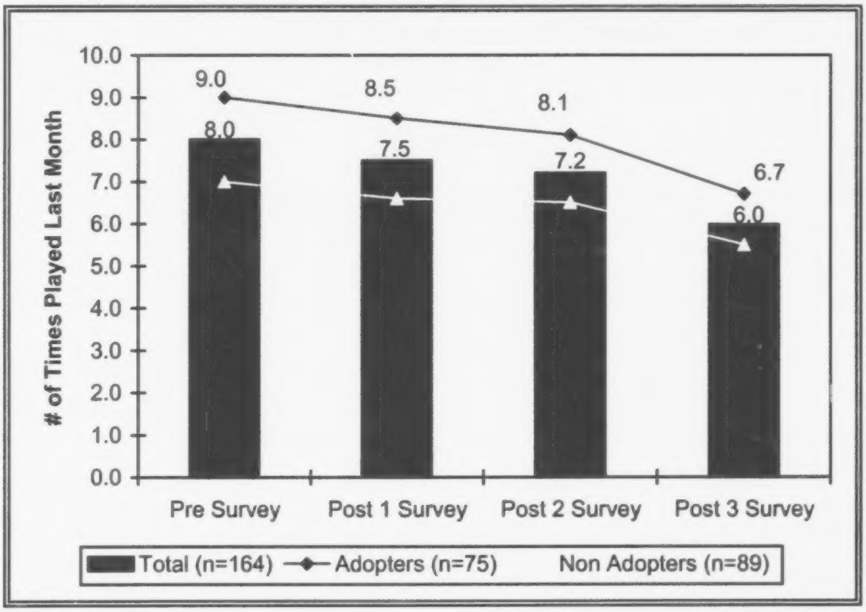
The RGFs are neither designed nor expected to address how often players take part in video lottery. However, it was possible that players may compensate for any reductions in length of time spent playing by playing more often. Moreover, there were other modifications to the new terminals including the introduction of new/different games that may entice players to take part in the VL play more often on the new terminals. **Therefore, frequency of play, amount of time spent per session and amount of money spent per session were measured and tracked over the 4 waves of the study.**

Based on play behaviours over the last month, the player indicated the number of times (s)he had played VL games and provided estimates of the amount of time and money typically spent each time (s)he had played. A pseudo-diary approach was also used to gather specific play behaviours for the most recent play session (i.e., last time played). At an aggregate level, this per session information is a more accurate measure of specific play behaviour (See Section 3 - Play Behaviours and Game Outcomes on a Per Session Basis). However, at an individual level, there will be wide fluctuations in session outcomes. This information does not take into account the cumulative effects of play and may not be typical of general playing patterns, depending upon frequency of play and other factors influencing outcomes (i.e., whether or not they won, were playing alone or with someone else, were playing on their lunch hour).

Therefore, in order to obtain more stable and reliable estimates of typical game outcomes, particularly for tracking purposes, frequency of play and amounts of time and money spent based on monthly play behaviours were gathered at approximately 2 month intervals over the course of the study (Pre Survey, Post 1 Survey, Post 2 Survey, Post 3 Survey).

Frequency of Play

Figure 2.2 – Average Frequency of Playing VLTs in the Last Month by Total Players and Adoption of New Terminals (Wave 1 to 4)



Over the course of the study, there was a significant decline in how often players took part in video lottery. Although there were no significant changes observed at a total level over the first three waves of the study, by the final Post 3 measure, the number of times played on average each month dropped from 8 times at the Pre Survey (median 6.0), to 6 times (median 4.0).

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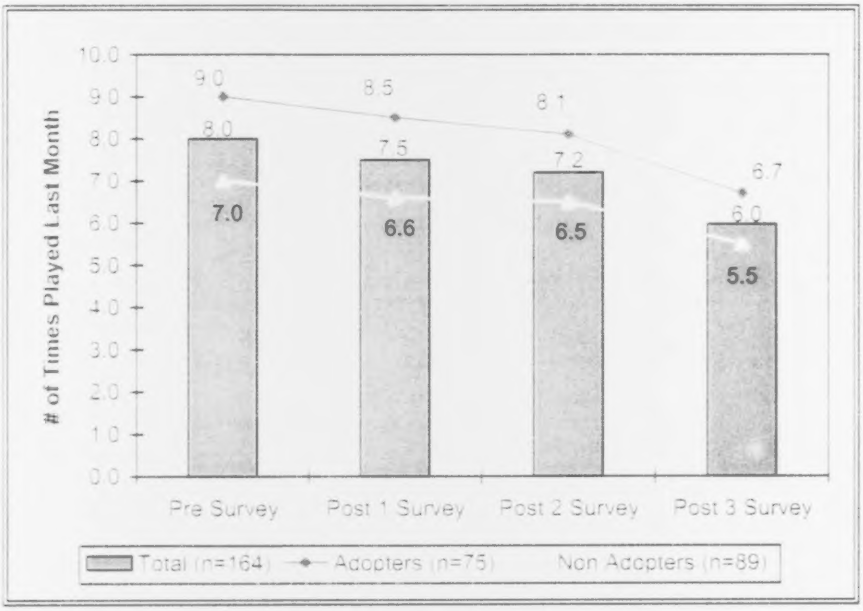
Therefore, in order to obtain more stable and reliable estimates of typical game outcomes, particularly for tracking purposes, frequency of play and amounts of time and money spent based on monthly play behaviours were gathered at approximately 2 month intervals over the course of the study (Pre Survey, Post 1 Survey, Post 2 Survey, Post 3 Survey).

Frequency of Play

Figure 2.2 – Average Frequency of Playing VLTs in the Last Month by Total Players and Adoption of New Terminals (Wave 1 to 4)



Over [illegible] playing [illegible] (see [illegible]). Although there were no significant changes observed at a total level over the first three waves of the study, by the final Post 3 measure, the number of times played on average each month dropped from 8 times at the Pre Survey (median 6.0) to 6.0 times (median 4.0).

Table 2.4 - Average Frequency of Play by Adoption and Player Status

	Pre Survey	Post 1 Survey	Post 2 Survey	Post 3 Survey
TOTAL (n=164)				
Mean	**8.0**	**7.5**	**7.2**	**6.0*** **
Median	**6.0**	**5.0**	**5.0**	**4.0**
By Adopters of new terminals:				
Adopters (n=75)				
Mean	**9.0**	8.5	8.1	**6.7****
Median	8.0	6.0	5.0	4.0
Non-Adopters (n=89)				
Mean	**7.0**	6.6	6.5	**5.5****
Median	4.0	4.0	4.0	4.0
By Player Status:				
No Risk (n=47)				
Mean	6.2	5.6	4.6	4.7
Median	4.0	4.0	3.0	3.0
Low Risk (n=48)				
Mean	6.9	6.4	6.9	6.3
Median	4.0	4.0	4.0	4.0
Moderate Risk (n=39)				
Mean	8.6	8.3	**8.7**	**6.7***
Median	8.0	6.0	6.0	5.0
Problem Players (n=30)				
Mean	**11.7**	11.1	**9.2**	**6.7****
Median	8.0	10.0	6.5	5.0

NS = No significant difference; * = $p<0.10$; ** = $p<0.05$; *** = $p<0.01$

Over the course of the study, frequency of monthly play declined reaching a statistically significant drop ≈ 8 months after the introduction of the new terminals, entirely due to higher risk players taking part in the games less often.

Similar declines in frequency of play were noted among both Adopters (Pre: 9.0 times, Post 3: 6.7 times) and Non-Adopters (Pre: 7.0 times, Post 3: 5.5 times). It is noteworthy that while average frequency of play is still higher for Adopters, the difference between the two segments has diminished, with the median number of times identical for players in each group (median: 4.0 times/month).

The only significant change noted by player status was a decline in frequency of play by Problem Players (Pre: 11.7 times, Post 3: 6.7 times). The Problem Players consistently played more often in the first three waves of the study and dropped only in the third measure.

Table 2.4 - Average Frequency of Play by Adoption and Player Status

	Pre Survey	Post 1 Survey	Post 2 Survey	Post 3 Survey
TOTAL (n=164)				
Mean	**8.0**	**7.5**	**7.2**	**6.0*****
Median	**6.0**	**5.0**	**5.0**	**4.0**
By Adopters of new terminals:				
Adopters (n=75)				
Mean	9.0	8.5	8.1	6.7**
Median	8.0	6.0	5.0	4.0
Non-Adopters (n=89)				
Mean	7.0	6.6	6.5	5.5**
Median	4.0	4.0	4.0	4.0
By Player Status:				
No Risk (n=47)				
Mean	6.2	5.6	4.6	4.7
Median	4.0	4.0	3.0	3.0
Low Risk (n=48)				
Mean	6.9	6.4	6.9	6.3
Median	4.0	4.0	4.0	4.0
Moderate Risk (n=39)				
Mean	8.6	8.3	8.7	6.7*
Median	8.0	6.0	6.0	5.0
Problem Players (n=30)				
Mean	11.7	11.1	9.2	6.7**
Median	8.0	10.0	6.5	5.0

NS = No significant difference; * = $p<0.10$; ** = $p<0.05$; *** = $p<0.01$

Over the course of the study, frequency of monthly play declined reaching a statistically significant drop ≈ 8 months after the introduction of the new terminals, entirely due to higher risk players taking part in the games less often.

Similar declines in frequency of play were noted among both Adopters (Pre: 9.0 times, Post 3: 6.7 times) and Non-Adopters (Pre: 7.0 times, Post 3: 5.5 times). It is noteworthy that while average frequency of play is still higher for Adopters, the difference between the two segments has diminished, with the median number of times identical for players in each group (median: 4.0 times/month).

The only significant change noted by player status was a decline in frequency of play by Problem Players (Pre: 11.7 times, Post 3: 6.7 times). The Problem Players consistently played more often in the first three waves of the study and dropped only in the third measure.

During the final wave of the study, there was no longer any appreciable difference in frequency of monthly play for VLTs among Low Risk (6.3 times/month), Moderate Risk (6.7 times/month) and the Problem Players (6.7 times/month).

The drop in frequency of play by those in the high risk group is most likely occurring due to regression effect and, thus, is not related to the introduction of the new terminals.

The decline in frequency of play among the higher risk players is most likely due to regression effect.[8] It will be recalled that the sample was specifically selected using a random, on-site intercept technique in order to enhance the likelihood of including frequent Regular VL Players who met the rigorous qualifications for participation. Thus, those regular players playing most often during the 2-3 week intercept survey were more likely to be included in the sample. Conversely, those regular players who were playing at lower play levels in May 2001 were less likely to have been selected for participation. Regression effect would predict that extreme results (i.e., those playing at either the highest or lowest levels) are likely to regress towards the mean over repeated measures. Therefore, it would be normal and expected to observe a decline in frequency for the selected sample and an increase among those who were not selected to take part in the study. This bias has implications in tracking general play frequency or other measures derived using frequency of play (e.g., monthly expenditures), but does not impact information gathered on a per session basis.

Therefore, while the decline in frequency of play in general cannot be interpreted as being related to the introduction of the new terminals with RGFs, the results do indicate that the presence of the new machines and the appeal of the new games were not associated with increased frequency of play in any of the primary player segments.

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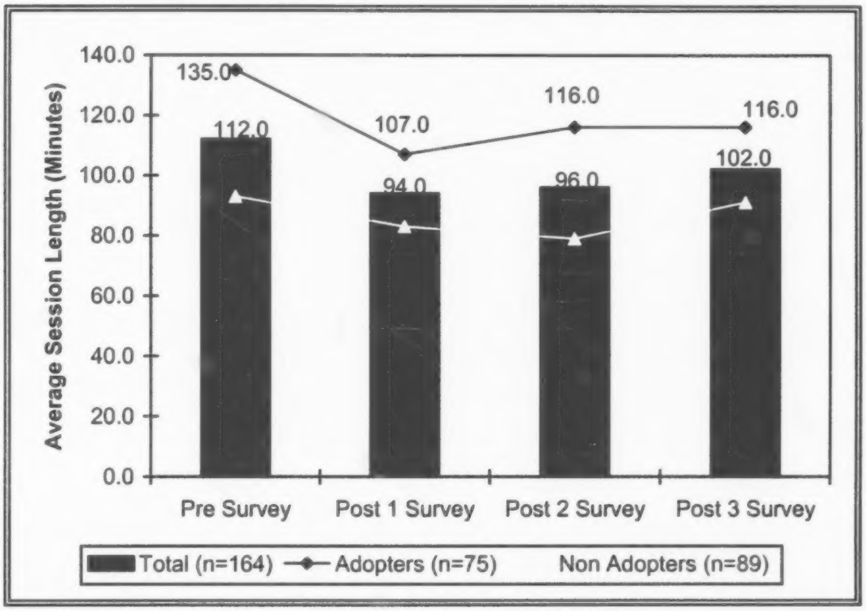
[8] It may be that there is a seasonal effect for frequency of play such that play levels based on the last month in the Spring (May 2001) may be higher than is the case for play in the post holiday new year (January 2002). However, a more likely explanation is provided by the regression effect.

Time Spent Playing

Session length remained stable for total players and within almost all of the player segments over the course of the study, suggesting that the average amount of time spent playing the games is fairly entrenched for regular players.

Figure 2.3 – Average Amount of Time Spent Per Session for Total Players and By Adoption of New Terminals (Wave 1 to 4)



In general, there was a significant decline observed in the average reported amount of time spent playing VL games from the Pre (112 minutes) to the Post 1 Survey (94 minutes). However, by Post 3 (approximately four months later), length of play had crept back up (102 minutes), and no longer differed significantly from the Pre Survey benchmark.

Table 2.5 - Average Amount of Time Spent Each Time Playing During the Last Month

	Pre Survey	Post 1 Survey	Post 2 Survey	Post 3 Survey
TOTAL (n=164)				
Mean	**112.2**	**94.3*****	**96.4**	**102.3**
Median	**90.0**	**90.0**	**75.0**	**90.0**
By Adopters of new terminals:				
Adopters (n=75)				
Mean	**135.0**	**107.0*****	116.0	**116.1***
Median	120.0	90.0	120.0	120.0

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Time Spent Playing

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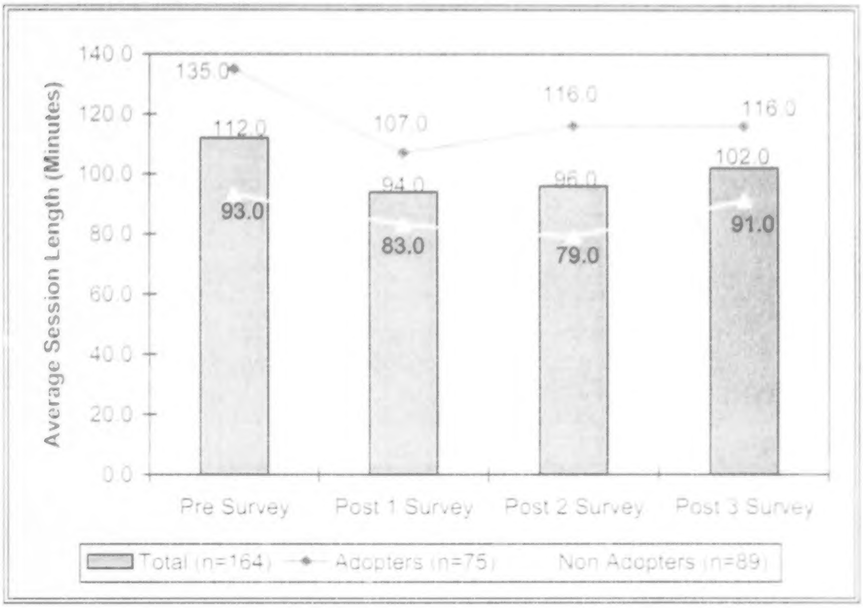


In general, there was a significant decline observed in the average reported amount of time spent playing VL games from the Pre (112 minutes) to the Post 1 Survey (94 minutes). However, by Post 3 (approximately four months later), length of play had crept back up (102 minutes) and no longer differed significantly from the Pre Survey benchmark.

Table 2.5 - Average Amount of Time Spent Each Time Playing During the Last Month

	Pre Survey	Post 1 Survey	Post 2 Survey	Post 3 Survey
TOTAL (n=164)				
Mean	112.2	94.3***	96.4	102.3
Median	90.0	90.0	75.0	90.0
By Adopters of new terminals:				
Adopters (n=75)				
Mean	135.0	107.0***	[illegible]	116.1*
Median	[illegible]	[illegible]	[illegible]	[illegible]

NS = No significant difference; * p<.1, ** p<.05, *** p<.01

Table 2.5 - Average Amount of Time Spent Each Time Playing During the Last Month -CONTINUED

	Pre Survey	Post 1 Survey	Post 2 Survey	Post 3 Survey
By Adopters of new terminals (continued):				
Non-Adopters (n=89)				
Mean	93.1	83.5	79.1	90.6
Median	60.0	60.0	60.0	60.0
By Player Status:				
No Risk (n=47)				
Mean	75.8	67.8	60.4	71.5
Median	60.0	60.0	45.0	60.0
Low Risk (n=48)				
Mean	96.7	80.3**	95.4	90.2
Median	90.0	60.0	60.0	60.0
Moderate Risk (n=39)				
Mean	128.9	112.6	114.0	121.8
Median	120.0	90.0	90.0	120.0
Problem Players (n=30)				
Mean	172.9	134.5*	143.0	144.5
Median	120.0	120.0	120.0	120.0

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Adopters (those who took up play on the new machines) are the only group for which a significant decline occurred in the length of time spent playing.

The only segment for which there was a significant decline in session length was the Adopters. Those players who had taken up play on the new terminals (using the new terminals 75% or more of the times played during the last survey), reported significant declines in session length over the course of the study (Pre: 135 minutes versus Post 3: 116 minutes). For these Adopters, average session length first dropped at the Post 1 Survey (107 minutes) conducted approximately two months after the new terminals were introduced. Average length of play rebounded slightly at Post 2 (116 minutes) but remained at significantly lower levels over the course of the study.

In contrast, average length of play for the Non-Adopters remained unchanged over all four measures.

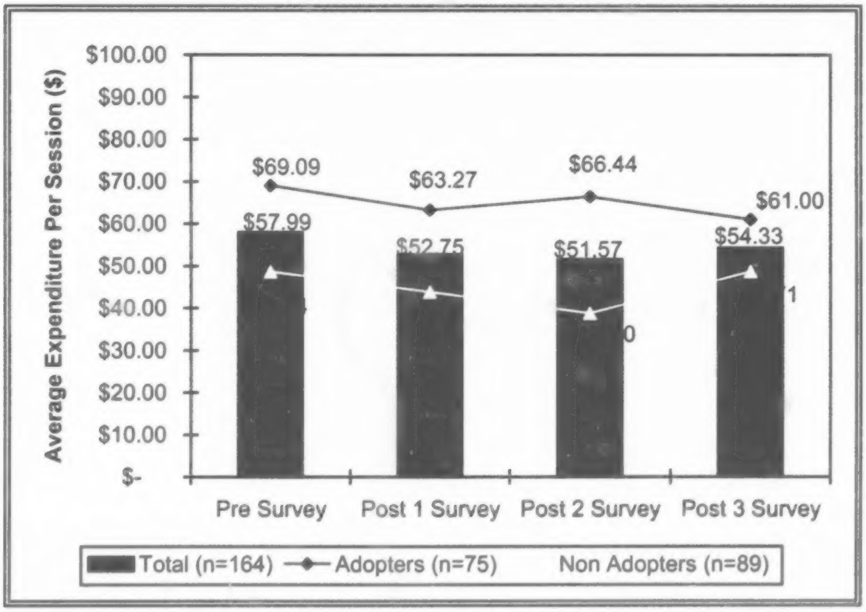
Again, it could be argued that regression effect may have played a role in influencing the decline observed for Adopters, such that those who play at extreme levels (either higher or lower) are more likely to regress towards the mean over repeated measures. **However, given that length of play remained statistically stable within all other player segments (Non-Adopters, Player Status), the decline for Adopters is more likely to be associated with play on the new machines.**

Despite drops in session length, Adopters on average continue to play for longer periods of time than Non-Adopters with median rates of time spent being twice as high for those attracted to the new machines (median: 120 minutes versus 60 minutes).

As expected, session length is strongly related to risk for problem gambling (r=.343, p<.000). **In general, the higher one's risk for problem play, the longer one plays each time, with Problem Players reporting the longest session lengths at levels at least twice as high as the No Risk Players (≈ 144 minutes versus 71 minutes).** There were no significant changes in session length observed within any of the CPGI risk segments. The only segment to exhibit any potential change in session length was the Problem Gamblers (Pre: 172.9 minutes versus Post 3: 144.5 minutes), although the high variance in responses and small sample size did not lead to any statistically significant change.

Money Spent Playing

Figure 2.4 – Average Amount of Money Spent Per Session for Total Players and By Adoption of New Terminals (Wave 1 to 4)



Adopters (those who took up play on the new machines) are the only group for which a significant decline occurred in the length of time spent playing.

Table 2.5 - Average Amount of Time Spent Each Time Playing During the Last Month -CONTINUED

	Pre Survey	Post 1 Survey	Post 2 Survey	Post 3 Survey
By Adopters of new terminals (continued):				
Non-Adopters (n=89)				
Mean	93.1	83.5	79.1	90.6
Median	60.0	60.0	60.0	60.0
By Player Status:				
No Risk (n=47)				
Mean	75.8	67.8	60.4	71.5
Median	60.0	60.0	45.0	60.0
Low Risk (n=48)				
Mean	96.7	80.3**	95.4	90.2
Median	90.0	60.0	60.0	60.0
Moderate Risk (n=39)				
Mean	128.9	112.0	114.0	121.8
Median	120.0	90.0	90.0	120.0
Problem Players (n=30)				
Mean	172.9	134.5*	143.0	144.5
Median	120.0	120.0	120.0	120.0

NS = No significant difference, * = p≤0.10, ** = p≤0.05, *** = p≤0.01

The only segment for which there was a significant decline in session length was the Adopters. Those players who had taken up play on the new terminals (using the new terminals 75% or more of the times played during the last survey), reported significant declines in session length over the course of the study (Pre: 135 minutes versus Post 3: 116 minutes). For these Adopters, average session length first dropped at the Post 1 Survey (107 minutes) conducted approximately two months after the new terminals were introduced. Average length of play rebounded slightly at Post 2 (116 minutes) but remained at significantly lower levels over the course of the study.

In contrast, average length of play for the Non-Adopters remained unchanged over all four measures.

Again, it could be argued that regression effect may have played a role in influencing the decline observed for Adopters, such that those who play at extreme levels (either higher or lower) are more likely to regress towards the mean over repeated measures. However, given that length of play remained statistically stable within all other player segments (Non-Adopters, Player Status), the decline for Adopters is more likely to be associated with play on the new machines.

Despite drops in session length, Adopters on average continue to play for longer periods of time than Non Adopters with median rates of time spent being twice as high for those attracted to the new machines (median 120 minutes versus 60 minutes).

As expected, session length is strongly related to risk for problem gambling (r=.345, p<.000). In general, the higher the risk for gambling, then the longer the play-session times, with Problem Players reporting the longest session lengths at levels almost twice as high as the No Risk Players (144 minutes versus 75 minutes). There were no significant changes in session length observed within any of the CPGI risk segments. The only segment to exhibit any potential change in session length was the Problem Gamblers (Pre: 172.0 minutes versus Post 3: 144.5 minutes), although the high variance in responses and small sample size did not lead to any statistically significant change.

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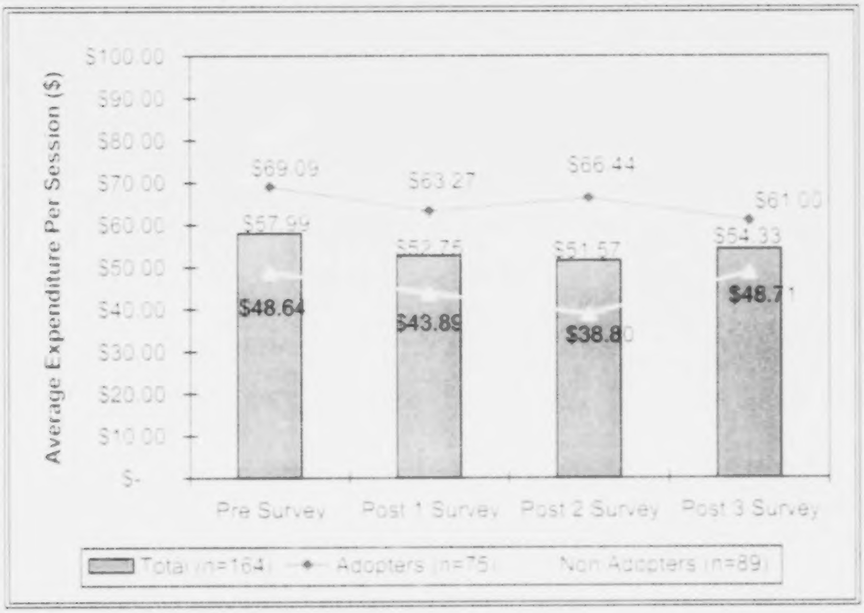

The amount spent each time played remained stable over the course of the study, with no change in expenditure observed in any of the player segments.

Table 2.6 - Average Amount of Money Spent Each Time Playing During the Last Month

	Pre Survey	Post 1 Survey	Post 2 Survey	Post 3 Survey
TOTAL (n=164)				
Mean	**$57.99**	**$52.75**	**$51.57**	**$54.33**
Median	**$40.00**	**$40.00**	**$40.00**	**$40.00**
By adopters of new terminals:				
Adopters (n=75)				
Mean	$69.09	$63.27	$66.44	$61.00
Median	$50.00	$40.00	$40.00	$40.00
Non-Adopters (n=89)				
Mean	$48.64	$43.89	$38.80	$48.71
Median	$25.00	$25.00	$25.00	$20.00
By Player Status:				
No Risk (n=47)				
Mean	$33.77	$29.85	$24.21	$33.04
Median	$20.00	$20.00	$20.00	$20.00
Low Risk (n=48)				
Mean	$44.58	$40.95	$48.51	$42.40
Median	$40.00	$30.00	$40.00	$25.00
Moderate Risk (n=39)				
Mean	$53.82	$52.61	$46.89	$51.46
Median	$40.00	$40.00	$40.00	$40.00
Problem Players (n=30)				
Mean	$122.83	107.67	$101.50	$110.50
Median	$100.00	$80.00	$75.00	$100.00

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

For Adopters, expenditure on the new terminals did not change significantly despite drops in the length of time spent playing. This suggests that those adopting play on the new machines were spending their money more quickly than was the case at the Pre Survey measures, although this change in the rate of expenditure was not associated with a reported increase in the absolute amounts spent.

At a total player level, there was no significant decline in expenditure observed over the study (Pre: mean=$57.99 versus Post 3: mean=$54.33; p=.561). In fact, the average amount of money typically spent each time played, remained stable within all groups, with no significant changes in expenditure observed for any type of player over the course of the study.

There is a strong relationship (r=.520, p<.000) between time and the amount of money spent while playing VLTs. Adopters, on average, played for longer periods of time than Non-Adopters and, consequently, reported higher expenditure levels with no notable changes in amount spent in any of the four waves (Adopters: ≈$61/time versus Non-Adopters: ≈$43/time). As noted for session length, the median length of

The amount spent each time played remained stable over the course of the study, with no change in expenditure observed in any of the player segments.

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TOTAL (n=164)				
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Median	**$40.00**	**$40.00**	**$40.00**	**$40.00**
By adopters of new terminals:				
Adopters (n=75)				
Mean	$69.09	$63.27	$66.44	$61.00
Median	$50.00	$40.00	$40.00	$40.00
Non-Adopters (n=89)				
Mean	$48.64	$43.89	$38.80	$48.71
Median	$25.00	$25.00	$25.00	$20.00
By Player Status:				
No Risk (n=47)				
Mean	$33.77	$29.85	$24.21	$33.04
Median	$20.00	$20.00	$20.00	$20.00
Low Risk (n=48)				
Mean	$44.58	$40.95	$48.51	$42.40
Median	$40.00	$30.00	$40.00	$25.00
Moderate Risk (n=39)				
Mean	$53.82	$52.61	$46.89	$51.46
Median	$40.00	$40.00	$40.00	$40.00
Problem Players (n=30)				
Mean	$122.83	107.67	$101.50	$110.50
Median	$100.00	$80.00	$75.00	$100.00

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Expenditure per session is related to risk for problem gambling even more strongly than time spent playing per session (r=.414, p<.000). Thus, as risk increases, the amount of money spent each time played also goes up.

Typical Play Behaviours

While time and money spent are key indicators for game outcomes, there are a number of behaviours during play that influence these outcomes and, in some cases, the player's potential exposure to the RGFs, specifically the pop-up reminders and mandatory cash out. Therefore, referring to play over the last month, all study participants were asked to estimate how often they had engaged in each specific behaviour. A ten-point scale was used whereby "0" meant never and "10" meant 100% of times played. The specific measures were selected based on hypothesized associations with the effects of the RGFs and on known behaviours related to excessive gambling:

- Losing track of time or money while playing
- Spending more time or money than intended or desired
- Chasing losses
- Cashing out and continuing to play
- Running credits down to zero before putting in more money

Although the amount of time and money spent during play are the primary indicators of game outcomes, there are other key behaviours that have been found to influence these outcomes and in some cases can be expected to effect exposure to the RGFs:
- ***Losing track of time or money***
- ***Spending more time or money than intended***
- ***Chasing losses***
- ***Cashing out***
- ***Running credits down to zero***

For the latter two measures, there are both theoretical and practical reasons for their inclusion. First, cashing out and continuing to play or running credits down to zero are both tactics sometimes used by players to manage expenditures but have been found to be associated with longer play sessions and, thus, higher amounts of money spent.[9] Second, such behaviours that temporarily interrupt play will reset the internal machine mechanism for the appearance of the on-screen pop-up messages that are only activated at specific intervals following 60 minutes of continuous play (90 minutes, 120 minutes, 145 minutes, and 150 minutes, respectively).

In pre-testing, the measures were clear for the players to understand, relevant to their play experience, easy to report upon and sensitive enough to detect changes. **The primary purpose of the measures are for use in modeling the effects of the**

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[9] In the 1997/1998 Nova Scotia VL Players Survey and follow-up interviews, it was found that players use both strategies to extend playing time in the belief that playing with "winnings" and putting in money in small amounts minimizes risks for losses and helps the player exert control over the amount spent. However, in many cases this heightens players' interaction with the machines and is associated with playing longer and spending more. It was "cashing out and stopping" or "running down credits and stopping" behaviour that distinguishes non-problem from Problem Players Section 3.6 - Video Lottery Play Behaviours, pp. 3-50).

RGFs. However, there is additional value in tracking these behaviours for all players in order to gain a better understanding of how players generally respond to VL and to identify differences in behaviours related to specific types of players and play of the new machines.

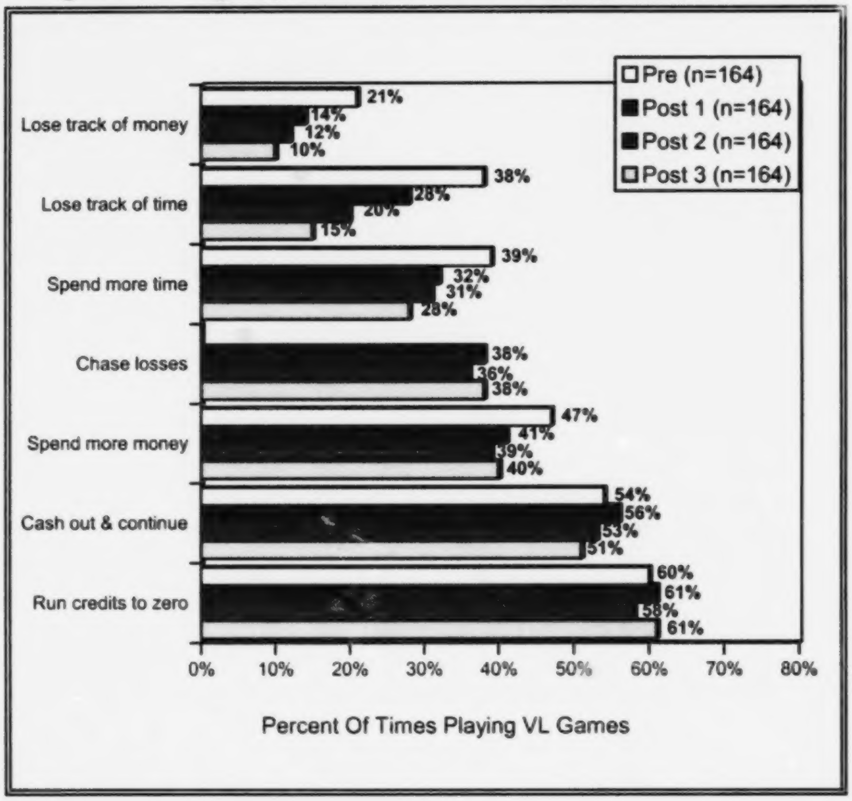
Over the course of the study, the frequency of the following play behaviours declined for participating VL players:

- less often lost track of time and/or money while playing
- less often spent more time and/or money playing the machines than they intended

There were no overall changes noted for the frequency of:

- cashing out and then continuing to play
- letting the credits run down to zero before putting in more money
- trying to win back money lost through gambling

Figure 2.5 – Frequency Of Behaviours While Playing VLTs – Total Players



Between the Pre Survey in June 2001 and the first follow up survey approximately 8 weeks later, there were significant declines noted for 4 of 7 behaviours measured:

- Losing track of money while playing (Pre: 21%, Post 1: 14%)
- Losing track of time while playing (Pre: 38%, Post 1: 28%)
- Spending more time playing VLTs than wanted (Pre: 39%, Post 1: 32%)
- Spending more money playing VLTs than wanted (Pre: 47%, Post 1: 41%)

With the exception of "losing track of time", frequency rates for all other behaviours remained stable over the last three waves of the study. The consistency of this finding among almost all the various player segments suggests that the initial drops in play may be related to a testing effect, such that participation in the study served to heighten players' sensitivity to time and money spent. Given high awareness and trial of the new terminals with the RGFs, it may also be that this exposure in general has contributed to players paying more attention to time and money expenditures on VLTs.

Even if a testing effect is largely contributing to players' improved awareness of time and money spent while playing, this finding in and of itself suggests that interventions involving introspection about their play can serve to heighten players' sensitivity to time and money spent. As changes in attitudes generally precede changes in behaviour, improved awareness may have long-term benefits as players use such information to mediate their behaviour.

It is noteworthy that only the frequency of players "losing track of time" has continued to steadily decline over each wave of the study. Again, the drop occurred at a similar rate for both those who adopted the new terminals and those who did not. There is also no difference by player status in the relative decline observed for this behaviour.

Thus, it appears that only a minority of players taking part in the research are continuing to lose track of time or money, largely Problem Players (≈28% and 24% respectively). It is notable that both Moderate Risk (23% versus 13%) and Low Risk Players (13% versus 6%) tend to report losing track of "time" more frequently than "money" spent. When playing VLTs, money spent increased with time spent. Thus, in terms of harm minimization, assisting such players in tracking time should offer some preventative benefits.

Results for the remaining three measures have been stable over the course of the study, suggesting that these behaviours are fairly entrenched and consistent over time:

- Cashing out and continuing to play (51%)
- Letting credits go down to zero before putting in more money (61%)
- Trying to win back money lost through gambling (chasing losses) (38%)

Table 2.7 – Frequency of Typical Play Behaviours – By Play Of New Terminals & By Player Status (Pre Versus Post)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Average % of the time you lose track of *time* while playing the machines							
		***		***			
Pre (Wave 1)	**38%**	31%	46%	16%	32%	53%	62%
		NS		***			
Post (Wave 4)	**15%**	13%	18%	3%	13%	23%	28%
Average % of the time you lose track of how much *money you are spending* while playing the machines							
		*		***			
Pre (Wave 1)	**21%**	17%	26%	4%	16%	23%	51%
		NS		***			
Post (Wave 4)	**10%**	9%	12%	3%	6%	13%	24%
Average % of the time you spend more *time* playing VLT's than you would like							
		***		***			
Pre (Wave 1)	**39%**	30%	49%	11%	30%	50%	82%
		**		***			
Post (Wave 4)	**28%**	22%	34%	5%	22%	31%	67%
Average % of the time you spend more *money* playing VLT's than you would like							
		***		***			
Pre (Wave 1)	**47%**	35%	63%	16%	42%	60%	89%
		***		***			
Post (Wave 4)	**40%**	31%	50%	13%	33%	52%	77%
Average % of the time you cash out and then continue to play							
		**		***			
Pre (Wave 1)	**54%**	50%	60%	39%	51%	64%	72%
		**		***			
Post (Wave 4)	**51%**	46%	57%	37%	47%	63%	65%

NS = No significant difference; * = $p<0.10$; ** = $p<0.05$; *** = $p<0.01$

Table 2.7 – Frequency of Typical Play Behaviours – By Play Of New Terminals & By Player Status (Pre Versus Post) - CONTINUED

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Average % of the time you let credits get down to zero before you put in more money							
		NS		NS			
Pre (Wave 1)	**60%**	56%	64%	59%	56%	55%	73%
		*		NS			
Post (Wave 4)	**61%**	56%	67%	59%	62%	62%	61%
Average % of the time you try to win back money that you lost through gambling							
		***		***			
Post (Wave 2)[10]	**38%**	33%	44%	12%	24%	52%	83%
		**		***			
Post (Wave 4)	**38%**	31%	45%	11%	31%	49%	75%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Improvements in keeping track of how much time and money was being spent did not necessarily translate into Problem Gamblers reporting greater control over time and money spent. The percent losing track of time (Pre: 62%; Post 3: 28%) or money (Pre: 51%; Post 3: 24%) during play diminished by half. Despite these improvements over the course of the study, the majority still continued to spend more time (67%) or money (77%) than desired. Thus, higher risk players appear to need both information and more substantiated strategies to help them stay on budget.

Lose Track of Time

During the Pre Survey, those who ended up adopting play on the new terminals were significantly more likely to lose track of time while playing than those who continued to play on the old terminals. While declines were reported by both Adopters (Pre: 46%, Post 3: 18%) and Non-Adopters (Pre: 31%, Post 3: 13%), there is no longer any significant difference between the two player groups in the frequency of losing track of time (18% versus 13%).

There were also comparable declines noted among all the Player Status segments, suggesting that all types of players appear to have gained greater awareness and sensitivity to the amount of time spent playing. At the start of the study, Moderate Risk (53%) and Problem Players (62%) on average lost track of time spent playing VL over half of the times played. At Post 3, frequency of losing track of time by these high-risk players declined to approximately one-quarter of the times played. Low Risk (32% to 13%) and No Risk Players (16% to 3%) also appear to have greater awareness of time spent playing, only losing track of time on a rare or occasional basis.

Spending More Time Playing Than Wanted

In general, players at Post 3 were also less inclined to be spending more time playing than desired (39% to 28%). Again, there were significant drops among all of the player segments, with improvements largely occurring in the 8 weeks between the Pre and Post 1 Survey. Frequency of spending more time playing than desired stayed fairly consistent over the last three waves of the study. Thus, while there were no further gains in players' control over time spent playing, the improvements observed following the introduction of the new terminals were maintained.

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[10] Chasing losses was not included in the Pre Survey questionnaire and, therefore, Post Survey results (Wave 2) were used as the benchmark for tracking purposes.

Problem Players reported playing longer than wanted in the majority of their play sessions (67%), at a rate at least twice as high as that cited by players in any other risk segment (5% to 31%).

At Wave 4, those who continued to play primarily on the old terminals (Non-Adopters) were still less inclined than Adopters to extend their play beyond desired time limits (22% versus 34%). Likewise, Problem Players still continue to play longer than desired the majority (67%) of times they take part in video lottery gambling, at rates at least twice as high as the lower risk players (5% to 31%). In fact, reductions in the frequency rate of this behaviour were significantly greater among all of the other player segments (18% decline for Problem Players versus ≈28% to 54% declines for the other players).

Losing Track of Money

During the Pre Survey, players reported losing track of time spent playing (38%) more often than losing track of money spent (21%). This continues to be true for Moderate (23% versus 13%) and Low Risk Players (13% versus 6%). However, due to improvements in awareness of time spent playing, especially by Problem Players (62% to 28%), the discrepancy between the two behaviours has diminished. **Overall, the frequency of losing track of money dropped down to 10% at the Post 1 Survey and has remained at this low rate over the course of the study.**

There are no longer any differences in keeping track of money spent among those adopting play on the new terminals (12%) or those continuing to play on the old terminals (9%). Moderate Risk Players (13%) report higher rates than No Risk (3%) or Low Risk (6%), with Problem Players losing track of money approximately one-quarter of the times they play.

Among those who adopted play on the new terminals, there was a significant decline in the frequency of overspending (63% versus 50%) whereas Non-Adopters remained constant throughout the study (≈31%).

Spending More Money Playing Than Wanted

It appears that reported improvements in keeping track of time and money spent are associated with better control over length of play rather than expenditure. There was a small yet significant decline from Pre to Post 1 for average frequency of overspending (47% versus 40%). However, at Post 3, regular players participating in the study continued to report spending more money than they wanted approximately 40% of the times they played video lottery.

It is noteworthy that there was a significant decline in the frequency of overspending observed for those who adopted play of the new terminals (Pre: 63%, Post 3: 50%) whereas Non-Adopters remained constant. Regardless, Adopters continue to overspend more often than Non-Adopters (50% versus 31%).

Cashing out during play and letting the credits go down to zero are common behaviours and occur during the majority of times played for all types of players. The frequency of these interruptions in continuous play increases with risk for problem gambling. The results indicate that these entrenched behaviours will preclude exposure to the pop-up messages, particularly the later reminders (90, 120, or 150 minutes), during most play sessions. Therefore, while Problem Players in general may be more likely over time to see the pop-up messages due to their increased frequency of play and longer play sessions, their tendency to engage in behaviours that interrupt play means they will less likely be exposed to the message at a point in play when it would be expected to provide the greatest value.

Not surprisingly, frequency of overspending is strongly related to risk for problem gambling. Despite improvements, Problem Players on average spent beyond desired limits the vast majority of times played (77%). Moderate Risk Players (52%) overspend approximately half of the times played and even Low Risk Players report spending more than they wanted one-third of the times played, on average. **This suggests that while chronic overspending is a critical component of Problem Players' gambling behaviour, even those at low risk spend more than desired approximately one out of three times they play.** Thus, efforts to assist players in managing the amount of money spent playing the games should have benefits for all regular players.

Cash Out and Continue to Play

Over the course of the study, there has been no change in the frequency with which players cash out and continue to play, within any of the player groups.

Overall, cashing out and continuing to play is a common practice, occurring on average approximately one-half of the times played. This behaviour is more prevalent as risk for problem gambling increases, primarily due to longer play sessions.

Letting Credits go Down to Zero Before Putting in More Money

In the majority of times played (61%), players in all segments let the credits run down to zero at least once before putting in more funds. There are no significant differences among the various player groups, nor did this behaviour change over the course of this study.

Chasing Losses

Chasing losses was not measured in the Pre Survey but was included over the final three waves of the study. There were no changes observed, with regular players on average trying to win back losses approximately 38% of the times they played.

Those adopting play on the new terminals reported higher levels of chasing behaviour than Non-Adopters (45% versus 31% of times played). Again, chasing losses increases with risk for problem gambling. **On average, Problem Players are trying to win back money lost 75% of the times played, as compared to only 11% of times for No Risk Players. Therefore, any intervention strategies for harm minimization, especially among the high risk player groups, must recognize that recovery of losses is a strong motivating factor for on-going play.** Given this finding and the assumption that most periods of continuous play are associated with winning rather than losing, it may be unrealistic to expect that the pop-up messages informing players of how long they have been playing, especially at the late stages of 90 minutes or beyond, will be sufficient to override the desire to recover previous losses (chasing behaviour).

Response To The New Terminals

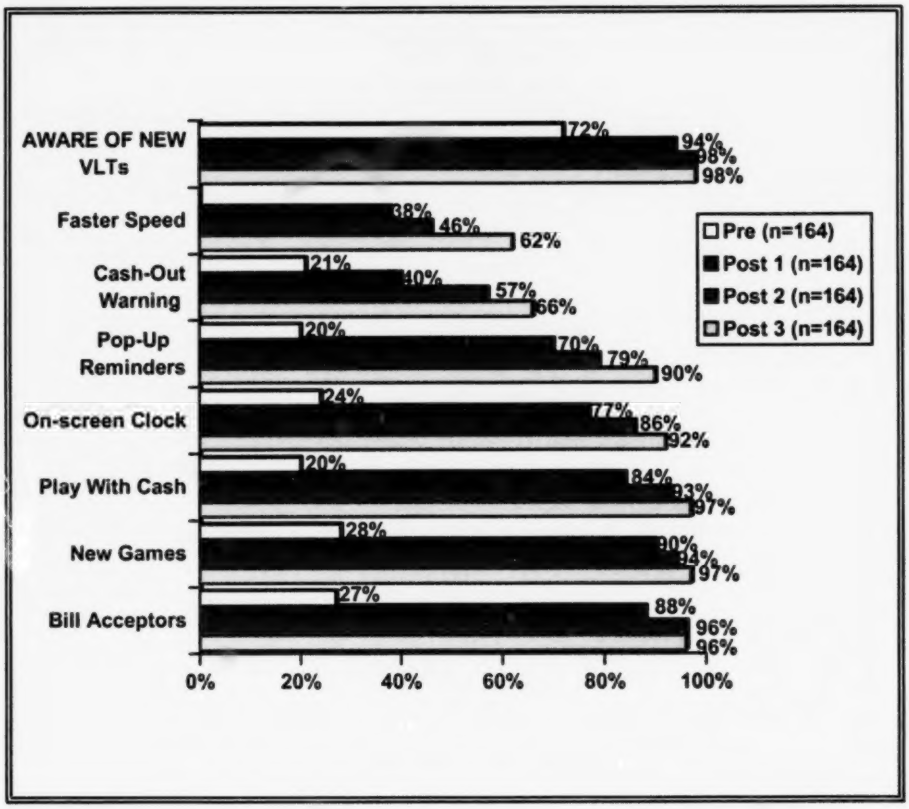
Awareness

Figure 2.6 – Awareness Of New Terminals & Individual RGFs – Total Players

In June 2001 (Pre or Wave 1), nearly three-quarters of participating players were already aware of the "new or modified VLT machines."

By the final wave approximately 7 months later (Post 3), virtually all participating players had seen or heard about the new machines, and 90% or more were aware of most of the new features:

- the pop-up time reminders (90%)
- on-screen clock (92%)
- playing with cash amounts instead of credits (97%)
- new games (97%)
- bill acceptors (96%).



At the first measurement (Wave 1, June 2001), nearly three-quarters of participating players had seen or heard something about the "new or modified VLT machines" in selected establishments. Only one-fifth to one-quarter, however, were familiar enough with the new terminals to recognize any new features of the machines.

By Wave 2 of the study (approximately 2 months later), awareness of each type of feature, except speed of play and the 150 minute cash out warning/mandatory cash out, had jumped to 70% or more of participating players. Awareness of these features increased to 90%+ by Wave 4 of the research.

The only features for which awareness was lower throughout the study are the faster speed of play on the machines and the cash out warning/mandatory cash out RGF. In the Wave 1 survey, players were not specifically questioned for perceptions surrounding speed of play on the machines. However, this unexpected aspect of the new machines was voluntarily noted by some players and, therefore, was added to subsequent surveys. The participating players who felt that the speed of play was faster on the new machines increased steadily over the last 3 waves, from 38% to 62%. Similar levels of awareness at each wave are noted for the 5-minute cash out warning and mandatory cash out at 150 minutes, with steady increases observed as players gained greater exposure to and experience with the new terminals.

Both Adopters (who played the majority of VL sessions in the past month on the new terminals) and Non-Adopters (who continued to play mainly on the old machines) are equally likely to be aware of each feature with the exception of faster speed of play, which was most likely to be endorsed by Adopters.

Table 2.8 – Awareness Of New Terminals and Responsible Gaming Features – By Play Of New Terminals & By Player Status (Pre Versus Post)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Awareness Of The New Video Lottery Terminals With RGFs							
		NS		*			
Pre (Wave 1)	**72%**	67%	77%	66%	73%	64%	90%
		NS		NS			
Post (Wave 4)	**98%**	98%	99%	98%	100%	95%	100%
Awareness Of Bill Acceptors							
		NS		*			
Pre (Wave 1)	**27%**	26%	28%	34%	23%	18%	33%
		NS		*			
Post (Wave 4)	**96%**	96%	97%	92%	100%	95%	100%
Awareness Of New Games							
		NS		NS			
Pre (Wave 1)	**28%**	28%	28%	28%	23%	31%	33%
		NS		NS			
Post (Wave 4)	**97%**	97%	97%	94%	100%	95%	100%

NS = No significant difference; * = $p<0.10$; ** = $p<0.05$; *** = $p<0.01$

Table 2.8 – Awareness Of New Terminals and Responsible Gaming Features – By Play Of New Terminals & By Player Status (Pre Versus Post) - CONTINUED

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Awareness Of Play With Cash Instead Of Credits							
		NS		NS			
Pre (Wave 1)	**20%**	15%	27%	23%	21%	18%	17%
		NS		NS			
Post (Wave 4)	**97%**	96%	99%	94%	100%	95%	100%
Awareness Of On-Screen Clock							
		NS		NS			
Pre (Wave 1)	**24%**	19%	29%	13%	27%	23%	37%
		NS		NS			
Post (Wave 4)	**92%**	90%	95%	87%	94%	95%	93%
Awareness Of Pop-up Reminders							
		NS		NS			
Pre (Wave 1)	**20%**	21%	17%	21%	23%	15%	17%
		NS		***			
Post (Wave 4)	**90%**	85%	95%	77%	96%	92%	97%
Awareness Of 5-Minute Cash Out Warning/Mandatory Cash Out							
		NS		NS			
Pre (Wave 1)	**21%**	19%	23%	17%	19%	20%	30%
		NS		*			
Post (Wave 4)	**66%**	65%	67%	51%	69%	69%	80%
Awareness Of Faster Speed Of Play							
		--		–			
Pre (Wave 1)	**N/A**	N/A	N/A	N/A	N/A	N/A	N/A
		*		NS			
Post (Wave 4)	**62%**	54%	72%	49%	65%	72%	67%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

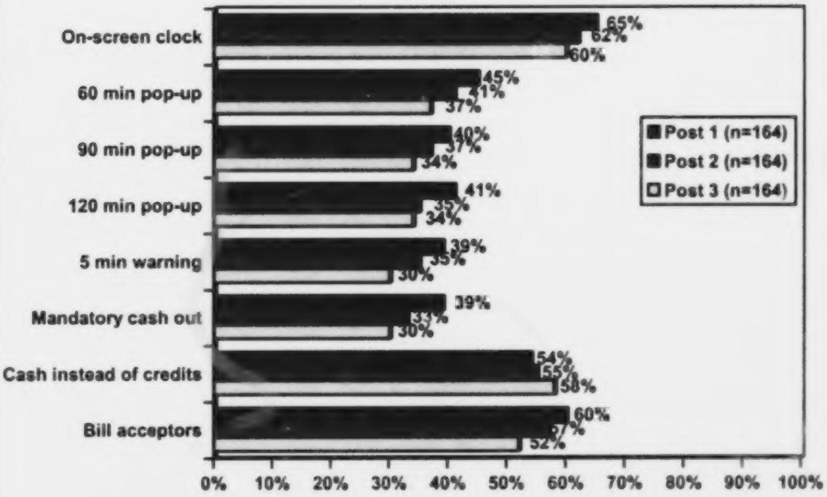
Despite higher trial and more frequent play of the new terminals by Adopters, awareness of each RGF is similar for both Adopters and Non-Adopters, with the single exception of faster speed of play on the new machines. Adopters, who played VL games on the new terminals the majority of times played in the last month, are significantly more likely to have felt the speed of play on new terminals was faster (72% versus 54% of Non-Adopters).

Differences by player status in awareness levels for the new features tend to reflect the different fundamental VL playing patterns between players at each level of the CPGI risk continuum. Problem Players, who play VL games significantly more often than any other player group, were first to notice the new machines (90% awareness during the Pre measure), and initially reported higher awareness of the bill acceptors on the new terminals. By Wave 4, awareness of most features was similarly high among the player status groups with the exceptions of the bill acceptors, pop-up reminders to continue playing, and the cash out warning/mandatory cash out. No Risk Players, who spend the least amount of money on VL games, were also least inclined to have noticed the bill acceptors. On average, this group also plays for significantly shorter time periods and, as a result, were also least likely to have seen any pop-up reminders (which appear only after a minimum 60 minutes of continuous play), or the cash out warning/mandatory cash out (appearing only after 145 minutes of continuous play).

Liking Of The RGFs

Beginning with the Post 1 survey, regardless of whether or not participating players had seen or heard about the new terminals, everyone was read descriptions of the various RGFs and asked how much they like the availability of each feature on the modified terminals.

Figure 2.7 – Percent Who Like RGFs (4 or 5 on 5-point scale)– Total Players



Between Post 1 and Post 3 measures, the average liking rating significantly declined among participating players for:

- 60 minute pop-up reminder
- 90 minute pop-up reminder
- 120 minute pop-up reminder
- 5 minute cash out warning
- mandatory cash out at 150 minutes

Most participating players initially responded favourably to the on-screen clock (Post 1: 65%), the use of cash amounts instead of credits (54%), and/or the bill acceptors (60%). Interestingly, these concepts not only appealed to the majority of participating players regardless of exposure to the actual features, but are also the only features for which liking ratings did not significantly decline over time, as familiarity and experience with the actual features increased.

Initial response was less enthusiastic for the pop-up reminders for continued play, (41% to 45% of participating players rating liking at 4 or 5 out of 5), and liking was slightly lower for the 5-minute cash out warning at 145 minutes (39%) and the mandatory 150-minute cash out (39%). As players became more familiar with these features, liking declined steadily for each over the remaining 2 waves. With a minimum of two-thirds of all players participating in the study aware of each feature, only one-third or less reported liking for each of these RGFs.

Table 2.9 – Liking Of The RGFs – By Play Of New Terminals & By Player Status (Wave 4 Only)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Liking of the On-Screen Clock							
		***		NS			
Dislike (1 or 2/5)	**13%**	14%	13%	8%	12%	20%	13%
Neutral (3 or DK)	**26%**	36%	15%	34%	23%	20%	27%
Like (4 or 5/5)	**60%**	51%	72%	57%	65%	59%	60%
		**		NS			
Average (out of 5)	**3.9**	3.7	4.1	3.9	4.0	3.8	3.8
Median (out of 5)	**4.0**	4.0	5.0	4.0	4.5	5.0	4.0
Liking of the 60 Minute Pop-up Reminder							
		***		NS			
Dislike (1 or 2/5)	**38%**	26%	53%	23%	40%	46%	50%
Neutral (3 or DK)	**24%**	33%	15%	32%	17%	23%	27%
Like (4 or 5/5)	**37%**	42%	32%	45%	44%	31%	23%
		***		*			
Average (out of 5)	**3.0**	3.3	2.6	3.4	3.1	2.8	2.4
Median (out of 5)	**3.0**	3.0	2.0	3.0	3.0	3.0	2.5

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

The RGFs/new features preferred by most participating players are:

- On-screen clock (60% like it, average liking rating of 3.9/5)
- Playing with cash amounts instead of credits (58% like, 3.6/5 average rating)
- Bill acceptors (52% like, 3.4/5 average rating)

Table 2.9 – Liking Of The RGFs – By Play Of New Terminals & By Player Status (Wave 4 Only) - CONTINUED

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Liking of the 90 Minute Pop-up Reminder							
		**		NS			
Dislike (1 or 2/5)	**38%**	28%	49%	26%	38%	46%	47%
Neutral (3 or DK)	**28%**	33%	23%	34%	21%	26%	33%
Like (4 or 5/5)	**34%**	39%	28%	40%	42%	28%	20%
		***		**			
Average (out of 5)	**2.9**	3.2	2.6	3.3	3.1	2.7	2.4
Median (out of 5)	**3.0**	3.0	3.0	3.0	3.0	3.0	3.0
Liking of the 120 Minute Pop-up Reminder							
		***		NS			
Dislike (1 or 2/5)	**41%**	30%	53%	28%	42%	49%	50%
Neutral (3 or DK)	**25%**	32%	17%	28%	19%	26%	30%
Like (4 or 5/5)	**34%**	38%	29%	45%	40%	26%	20%
		**		**			
Average (out of 5)	**2.8**	3.1	2.5	3.3	3.0	2.6	2.3
Median (out of 5)	**3.0**	3.0	2.0	3.0	3.0	3.0	2.0
Liking of the 5-Minute Cash Out Warning							
		*		*			
Dislike (1 or 2/5)	**49%**	42%	59%	38%	40%	64%	63%
Neutral (3 or DK)	**20%**	24%	16%	21%	23%	13%	23%
Like (4 or 5/5)	**30%**	35%	25%	40%	38%	23%	13%
		*		**			
Average (out of 5)	**2.6**	2.8	2.4	3.0	3.0	2.2	2.1
Median (out of 5)	**3.0**	3.0	1.0	3.0	3.0	1.0	1.0
Liking of the Mandatory Cash Out (150 Minutes)							
		NS		***			
Dislike (1 or 2/5)	**48%**	42%	56%	32%	40%	59%	73%
Neutral (3 or DK)	**21%**	25%	17%	23%	29%	15%	13%
Like (4 or 5/5)	**30%**	34%	27%	45%	31%	26%	13%
		NS		***			
Average (out of 5)	**2.6**	2.8	2.5	3.2	2.8	2.4	1.9
Median (out of 5)	**3.0**	3.0	2.0	3.0	3.0	1.0	1.0

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Adopters are more likely than Non-Adopters to like the on-screen clock, playing with cash amounts instead of credits, and availability of the bill acceptors. These players who play VL games mainly on the new or modified machines are comparatively less inclined to like the pop-up messages. This suggests that the pop-up messages and the 5-minute cash out warning message may become more annoying to players as the frequency of exposure to the messages increases. Given that the preferred features can all be positioned as facilitating play, it is not surprising that those RGFs which interrupt play are rated less favourably.

Table 2.9 – Liking Of The RGFs – By Play Of New Terminals & By Player Status (Wave 4 Only) - CONTINUED

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Liking of playing with Cash Amounts Instead Of Credits							
		***		NS			
Dislike (1 or 2/5)	**23%**	33%	11%	21%	21%	28%	20%
Neutral (3 or DK)	**20%**	19%	20%	21%	21%	18%	17%
Like (4 or 5/5)	**58%**	48%	70%	57%	58%	54%	63%
		***		NS			
Average (out of 5)	**3.6**	3.2	4.1	3.6	3.6	3.6	3.8
Median (out of 5)	**4.0**	3.0	5.0	4.0	4.0	5.0	5.0
Liking of the Bill Acceptors							
		*		***			
Dislike (1 or 2/5)	**27%**	32%	23%	15%	31%	46%	17%
Neutral (3 or DK)	**20%**	25%	15%	36%	15%	5%	23%
Like (4 or 5/5)	**52%**	44%	63%	49%	54%	49%	60%
		**		NS			
Average (out of 5)	**3.4**	3.2	3.8	3.6	3.4	3.0	3.8
Median (out of 5)	**4.0**	3.0	5.0	3.0	4.0	3.0	4.5

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Problem Players are most inclined to like the availability of bill acceptors on the new machines, and liking is similar across all risk groups for the other non-pop-up RGFs (cash versus credits and on-screen clock).

Liking declines as risk level increases for all pop-up reminder/message RGFs, especially the 150-minute mandatory cash out.

Liking of each RGF/new feature differs significantly between Adopters and Non-Adopters, with the exception of the mandatory cash out at 150 minutes, where liking is similar for both groups (Adopters: 27%, Non-Adopters: 34%).

Compared to those players who mainly played VL games on the old terminals, Adopters are more inclined to favourably rate the appeal of:

- the on-screen clock (72% versus 51% of Non-Adopters)
- playing with cash amounts instead of credits (70% versus 48%)
- bill acceptors on the machines (63% versus 44%).

For the most part, all three of these features can be seen to facilitate players' interaction with the machines providing easy access to time checks, minimizing issues associated with getting change to play and translating credits into dollar amounts so players do not have to do this themselves.

For all other RGFs (all pop-up reminders/messages), Non-Adopters, who have less hands-on experience with the messages, tended to report higher liking ratings. This suggests that repeated exposure to the pop-up reminders for those playing the new machines may become annoying or irritating to these players. However, unlike the other modifications, these features also interrupt rather than facilitate play. Thus, it may be that the pop-up messages are effectively interfering with the playing process.

The same pattern for liking ratings is evident by player status. Liking is similar across all risk levels for the on-screen clock and playing with cash amounts instead of credits, and Problem Players are more inclined to like the bill acceptors (60%) than lower risk players. However, as risk level increases, average liking ratings declined for each of the pop-up reminder message features and, in particular, the mandatory cash out at 150 minutes. In fact, only 13% of Problem Players like the 150-minute mandatory cash out compared to 26% to 45% of the lower risk players. Conversely, nearly three-quarters of Problem Players dislike this RGF (73%) compared to 32% of No Risk, 40% of Low Risk and 59% of Moderate Risk Players. Considering that Problem Players are the only group who typically play for over 150 minutes per session on average (173 minutes versus 76 to 129 minutes for the other groups), it is likely that actual experience with this feature is influencing its appeal compared to evaluating the concept of the feature.

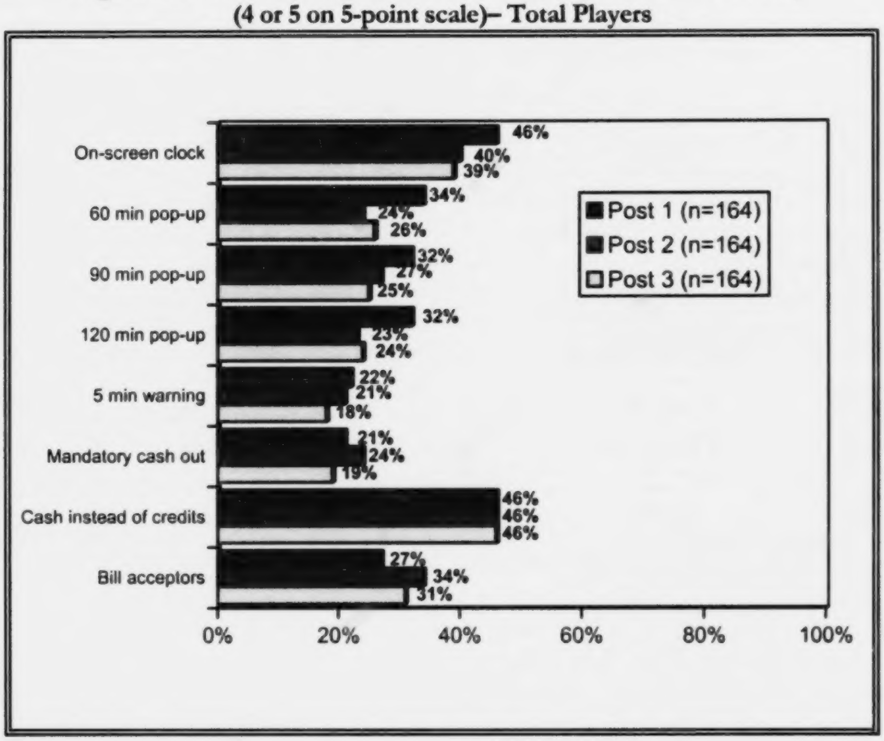
Again, response towards the pop-up messages, particularly by the problem gamblers, likely reflects the effect of the message in temporarily disrupting play and annoyance in being reminded of time spent playing. Thus, a negative response to the feature may be indicative of its success in interrupting player behaviours and/or temporarily distracting the players' attention. It is unclear if repeated exposure will lead to habitual or automatic responses to the message or if there will be a cumulative effect with players either changing playing patterns to avoid seeing the "disliked" message or actually reducing play.

Perceived Effectiveness of the RGFs

As for liking, all participating VL players were asked to rate how effective they perceived each RGF to be, in terms of assisting them in keeping track of the amounts of time and/or money they are spending.

Overall, perceived effectiveness of the RGFs/new features has remained consistent over the three waves, and tends to be at lower levels than liking. Less than half of participating players in Wave 4 rate any RGF as effective, with the use of cash instead of credits achieving the highest rank (46%). Approximately one-third of players believe the on-screen clock will have an effect on keeping track of time while playing (39%), or that bill acceptors will help them keep track of expenditure during play (31%). About one-quarter or less describe any of the pop-up reminders/ messages as affecting management of time or money expenditures.

Figure 2.8 – Percent Who Believe the RGFs Have an Effect on Play (4 or 5 on 5-point scale)– Total Players



Overall, participating players were more conservative when rating perceived effectiveness of each RGF/new feature than they were when rating liking. Less than half of all players taking part in the research rated each RGF as effective in helping them to keep track of either the time or money they are spending on VL gaming.

Effectiveness ratings for each of the features have remained very consistent over the course of the study, in contrast to liking. **While liking tended to decline as players became more familiar with the individual RGFs (the pop-up messages in particular), the only RGF for which perceived effectiveness ratings declined is the 60 minute pop-up reminder.**

Nearly half of all participating players (46%) initially believed the use of cash amounts instead of credits while playing would be effective in helping them to keep track of the money they were spending, and this level stayed constant over the course of the research. The on-screen clock is second highest rated feature in terms of effect on keeping track of time while playing, at 39% by Wave 4 of the study. Nearly one-third (31%) of players at Wave 4 describe the bill acceptor as an effective money management tool for them, with one-quarter or fewer of players indicating effectiveness for any other feature.

The on-screen clock and use of cash display rather than credits are perceived as effective by more players. This finding is not particularly surprising given that all players are exposed to these two RGFs whereas the behaviour-activated features are less relevant for the majority of participants.

Table 2.10 – Perceived Effectiveness of the RGFs – By Play of New Terminals & By Player Status (Wave 4 Only)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Effect of the On-Screen Clock on helping you keep track of time							
		NS		NS			
Little Effect (1 or 2/5)	**46%**	51%	41%	55%	38%	44%	50%
Neutral (3 or DK)	**15%**	17%	12%	13%	19%	13%	13%
Some Effect (4 or 5/5)	**39%**	33%	47%	32%	44%	44%	37%
		**		NS			
Average (out of 5)	**2.8**	2.6	3.1	2.4	3.2	3.0	2.7
Median (out of 5)	**3.0**	2.0	3.0	1.0	3.0	3.0	2.5
Effect of the 60 Minute Pop-up Reminder on helping you keep track of time							
		NS		NS			
Little Effect (1 or 2/5)	**59%**	54%	65%	60%	48%	64%	70%
Neutral (3 or DK)	**15%**	17%	13%	17%	12%	13%	20%
Some Effect (4 or 5/5)	**26%**	29%	21%	23%	40%	23%	10%
		NS		NS			
Average (out of 5)	**2.3**	2.5	2.1	2.3	2.8	2.2	1.9
Median (out of 5)	**1.0**	2.0	1.0	1.0	3.0	1.0	1.0
Effect of the 90 Minute Pop-up Reminder on helping you keep track of time							
		*		NS			
Little Effect (1 or 2/5)	**60%**	53%	68%	60%	50%	64%	70%
Neutral (3 or DK)	**15%**	20%	9%	17%	12%	18%	13%
Some Effect (4 or 5/5)	**25%**	27%	23%	23%	38%	18%	17%
		NS		NS			
Average (out of 5)	**2.3**	2.5	2.1	2.2	2.7	2.2	2.0
Median (out of 5)	**1.0**	2.0	1.0	1.0	2.0	2.0	1.0

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Table 2.10 – Perceived Effectiveness of the RGFs – By Play of New Terminals & By Player Status (Wave 4 Only) - CONTINUED

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Effect of the 120 Minute Pop-up Reminder on helping you keep track of time							
		*		NS			
Little Effect (1 or 2/5)	**61%**	53%	71%	60%	50%	64%	77%
Neutral (3 or DK)	**15%**	18%	11%	15%	12%	18%	13%
Some Effect (4 or 5/5)	**24%**	29%	19%	26%	38%	18%	10%
		**		*			
Average (out of 5)	**2.2**	2.5	2.0	2.2	2.7	2.2	1.8
Median (out of 5)	**1.0**	2.0	1.0	1.0	2.0	1.0	1.0
Effect of the 5-Minute Cash Out Warning on ending your VLT play							
		NS		NS			
Little Effect (1 or 2/5)	**66%**	65%	68%	70%	54%	67%	80%
Neutral (3 or DK)	**15%**	17%	13%	15%	19%	13%	13%
Some Effect (4 or 5/5)	**18%**	18%	19%	15%	27%	20%	7%
		NS		*			
Average (out of 5)	**2.0**	2.1	2.0	1.9	2.5	2.0	1.6
Median (out of 5)	**1.0**	1.0	1.0	1.0	1.0	1.0	1.0
Effect of the Mandatory Cash Out (150 Minutes) on ending your VLT play							
		NS		NS			
Little Effect (1 or 2/5)	**70%**	68%	71%	72%	56%	80%	73%
Neutral (3 or DK)	**12%**	14%	9%	13%	12%	10%	10%
Some Effect (4 or 5/5)	**19%**	18%	20%	15%	31%	10%	17%
		NS		*			
Average (out of 5)	**2.0**	2.0	2.0	1.9	2.4	1.6	1.8
Median (out of 5)	**1.0**	1.0	1.0	1.0	1.0	1.0	1.0
Effect of playing with Cash Amounts Instead Of Credits on keeping track of how much money you are spending							
		**		NS			
Little Effect (1 or 2/5)	**43%**	47%	37%	49%	35%	44%	43%
Neutral (3 or DK)	**12%**	16%	7%	11%	12%	13%	10%
Some Effect (4 or 5/5)	**46%**	37%	56%	40%	52%	44%	47%
		**		NS			
Average (out of 5)	**3.0**	2.7	3.3	2.7	3.2	3.0	3.0
Median (out of 5)	**3.0**	3.0	4.0	3.0	4.0	3.0	3.0

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

The relatively high rating of effectiveness for the bill acceptor may be more unexpected as this modification was not introduced as an RGF. However, for nearly one-third of players, the ability to put in "bills" rather than coins appears to offer players some value in keeping track of money. This may be especially true for those who set budgets for play. However, before interpreting this modification as an improvement it is necessary to assess whether the benefits for some players are offset by the negative effects on others.

Table 2.10 – Perceived Effectiveness of the RGFs – By Play of New Terminals & By Player Status (Wave 4 Only) - CONTINUED

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
Effect of the Bill Acceptors on keeping track of how much money you are spending							
		NS		NS			
Little Effect (1 or 2/5)	**57%**	57%	56%	53%	62%	59%	50%
Neutral (3 or DK)	**12%**	16%	8%	17%	10%	10%	10%
Some Effect (4 or 5/5)	**31%**	27%	36%	30%	27%	31%	40%
		NS		NS			
Average (out of 5)	**2.5**	2.4	2.6	2.5	2.3	2.5	2.8
Median (out of 5)	**1.0**	1.0	1.0	2.0	1.0	1.0	2.5

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

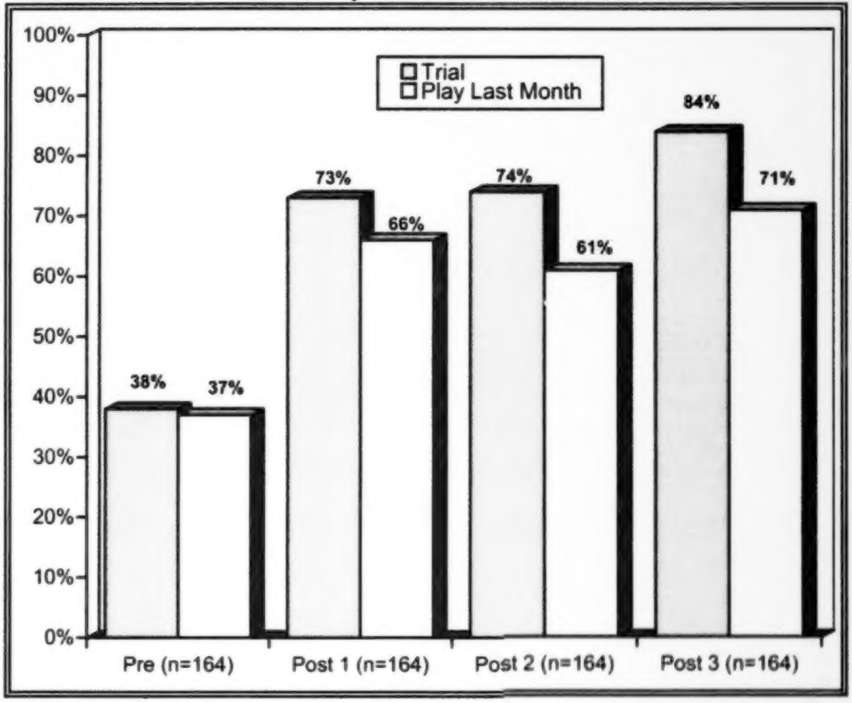
Perceived effectiveness of the RGFs has not changed much over the course of the research, and is similar in most cases for players across all segments. Notably, ratings are similar for No Risk and Problem Players, suggesting that perceived effectiveness of the features may not be strongly related to players' actual experiences in losing track of time or money while playing VL games.

Perceived effectiveness of the RGFs is similar among the player segments at the final wave of the study (Post 3). Adopters tend to offer higher effectiveness ratings, on average, for the on-screen clock (3.1 versus 2.6 for Non-Adopters) and for the cash instead of credits (3.3 versus 2.7). Effectiveness ratings for each of the 60, 90 and 120 minute reminders are nearly identical for Non-Adopters, while ratings tended to decline among Adopters as the time interval of the reminder message increased such that Adopters offer significantly lower ratings for the effectiveness for the 120-minute pop-up reminder on helping them keep track of time (2.0 versus 2.5). Ratings for the 5-minute cash out warning and mandatory cash out at 150 minutes are similar for the two groups, likely reflecting the comparatively low exposure to this feature regardless of frequency of play on the new machines. Perceptions of the bill acceptors' effect on keeping track of money during play are also similar for both groups, with the majority (≈56%) reporting little to no effect.

When players are examined by CPGI risk group, there are even fewer differences in perceived effectiveness of the RGFs. In fact, for most RGFs, the effectiveness ratings are most similar on average for the No Risk and Problem Player groups. **This suggests that perceived effectiveness of the features in helping players to control the time and/or money they are spending is not strongly related to their actual experiences in losing track of time or money while playing VL games.** For 5 of the 8 features measured, results are similar across all four risk groups. For the remaining 3 (120 minute pop-up reminder, 5 minute cash out warning, mandatory cash out), average effectiveness ratings tend to be highest among the Low Risk Players.

Play Of The New Terminals

**Figure 2.9 – Trial & Play In The Last Month For The New Terminals
Total Players – Wave 1 to Wave 4**



Trial of the new or modified terminals reached 84% of participating players by the Post 3 measure. A total of 14% of participating players (about 1 in 7) were aware of the new machines but did not try them.

Continued adoption rates for the new terminals were high throughout the study, meaning that once a player had tried the new terminals the vast majority (82% to 90%) continued to play on these machines at least once in the previous month.

At the beginning of the study (Pre measure – June 2001), more than one-third of all participating players had already tried the new terminals (38%). After two months, trial nearly doubled (73%), with two-thirds of players (66%) having played VL games on the new or modified terminals within the past month. As the research continued, trial increased to 84% of all participating players having played the new terminals by the Post 3 measurement. Considering that awareness of the new or modified machines reached 98% of participating players by the Post 3 measure, this means that only 14% (or about 1 in 7 participating VL players) were aware of the new terminals but never tried them.

Current play remained steady from the first Post measure, with 61% to 71% of players having played VL games on the terminals with RGFs within the previous month. This translates into a consistently high continued adoption rate of 82% to 90% over the last three measures, meaning that a high proportion of trial players continued to play on the new machines at least once in the previous month. Overall, approximately 13%

tried the terminals with RGFs at some time in the past, but did not play games on the modified machines within the past month.

A total of 16% of participating players have never tried the new or modified terminals, due to:

- lack of interest/only play my usual game (10%);
- dislike the new machines (4%);
- lack of access/ machine never free (2%).

On average, Problem Players have played VL games on the new machines significantly more often than players in the other groups, which reflects this group's typical patterns of more frequent VL play in general. The average number of times playing on the new machines in the past month is similar for all four risk groups (3.1 times to 4.9 times).

Table 2.11 – Trial & Play In the Last Month for New Terminals – By Play of New Terminals & By Player Status (Wave 4 Only)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
TRIAL (EVER PLAYED)							
		***		NS			
% ever played the new machines (Trial)	**84%**	**70%**	**100%**	**74%**	**88%**	**82%**	**93%**
		***		***			
Average number of times ever played on new machines	**28.0**	9.9	49.6	9.7	34.6	21.2	55.2
Median number of times ever played on new machines	**6.5**	2.0	25.0	3.0	16.5	10.0	20.0
PLAY OF NEW MACHINES IN LAST MONTH							
		***		NS			
% played the new machines in the last month	**71%**	**46%**	**100%**	**60%**	**75%**	**74%**	**77%**
		***		NS			
Average number of times played on new machines last month	**4.2**	1.6	7.2	3.1	4.8	4.0	4.9
Median number of times played on new machines last month	**2.0**	0	4.0	1.0	2.5	3.0	3.5

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Trial

Although, by definition, Non-Adopters did not switch the majority of their play sessions over to the new machines, the vast majority (70%) tried the new terminals at least once, with almost half (46%) having played during the last month of the study. In terms of player status, trial ranges from nearly three-quarters of No Risk Players (74%) up to nearly all Problem Players (93%).

Participating VL players who did not try the new terminals (16%, n=27) were asked to specify why they haven't tried any of the new or modified machines. The majority of these players (16 out of the 27 individuals) reported a lack of interest in the new machines, indicating that they only play their usual game(s) found on the old machines. About one in four saw the new terminals and disliked them by sight alone, and half as many (4 individuals) indicated that the new terminals were "never free" or available for play.

Overall, rates of trial and play in the last month for the new or modified machines are similar for participating players in each risk group. This suggests that the new terminals with RGFs neither targeted nor discouraged play for those players at any specific level of risk for developing problems with their VL gambling.

Play In The Last Month

The majority of participating VL players in each of the four risk level groups played on the new or modified terminals within the last month (60% to 77%), on average playing a similar number of times (3.1 to 4.9 times).

The reasons for not playing on the new machines in the month prior to the Post 3 survey are similar to those for not trying the modified terminals. However, these "Droppers" (n=21) are more inclined to mention a dislike for the machines (9 of the 21) or a lack of access (n=7) as reasons for not playing in the last month, rather than a loyalty to their preferred games on the old machines (n=4).

Overall, rates of trial and play in the last month for the new machines are similar for participating players in each risk group. **This suggests that the new terminals neither encouraged nor discouraged play for those at any specific level of risk for developing problems with their VL gambling.**

Exposure To RGFs During Play

Reference To The On-Screen Clock

Almost all players who tried the new machines recall seeing the on-screen clock (94%).

Nearly one-third (31%) of all participating VL players report that they never referred to the on-screen clock while playing. However, 80% of this group usually wear a watch, compared to only 52% of those who at least sometimes referred to the clock.

Table 2.12 – Reference To On-Screen Clock During Play On New Terminals – By Play Of New Terminals & By Player Status (Wave 4 Only)

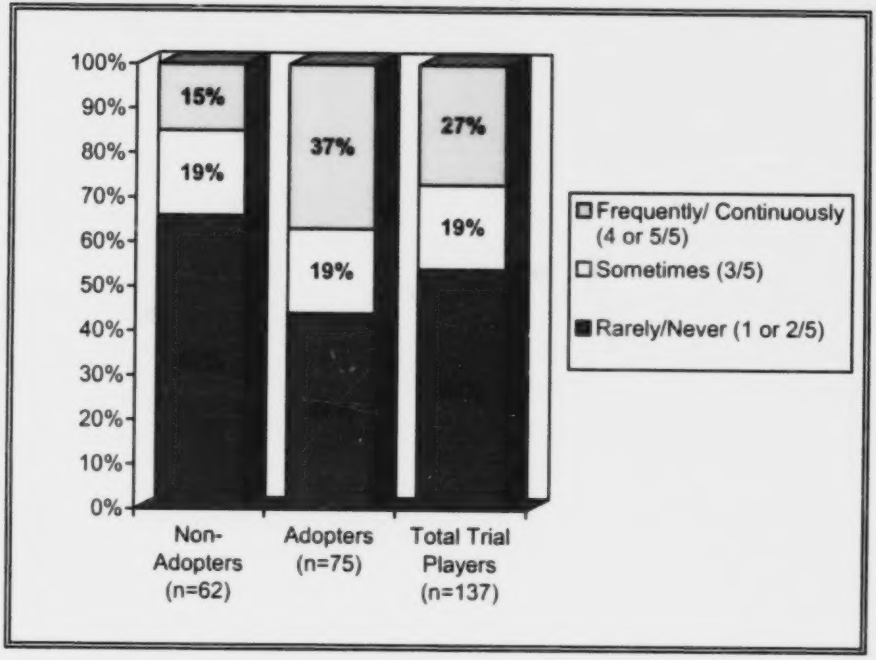
		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
FREQUENCY OF REFERRING TO ON-SCREEN CLOCK (5-point Scale)							
		***		NS			
1 out of 5 (Never)	**31%**	32%	31%	28%	40%	28%	27%
2 out of 5	**14%**	15%	13%	11%	17%	13%	17%
3 out of 5	**16%**	14%	19%	13%	10%	20%	23%
4 out of 5	**9%**	6%	13%	8%	10%	5%	13%
5 out of (Continuously)	**13%**	4%	24%	15%	10%	15%	13%
(Never played new machines)	**16%**	30%	---	26%	12%	18%	7%
	n=137	n=62	n=75	n=35	n=42	n=32	†n=28
		***		NS			
Average (out of 5)	**2.5**	2.1	2.9	2.6	2.3	2.6	2.7
Median (out of 5)	**2.0**	2.0	3.0	2.0	2.0	2.5	3.0

† Due to small sample sizes (n<30) means/medians should be viewed with caution.
NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

As is the case for the display of cash amounts instead of credits, all players who try the new or modified machines are potentially exposed to the on-screen clock. Thus, **nearly all participating players who have played VL games on the modified terminals recall seeing the clock on the screen (94%).**

Those who tried the terminals with RGFs were asked how often they referred to the clock while playing. Nearly one-third of all participants (31%) indicated that they never referred to the on-screen clock. However, it is notable that this group is significantly more likely to usually wear a watch (80%) compared to those who at least sometimes refer to the on-screen clock (52% typically wear a watch while playing).

Figure 2.10 – Frequency Of Referring To The On-Screen Clock By Play Of New Terminals – For Those Who Have Tried The New Machines
Wave 4 Only



The results suggest that as players gain greater familiarity with the new terminals, they are more likely to use the on-screen clock during play. This rate of frequent use is over twice as high among Adopters (37%) compared to those continuing to play primarily on the old machines (15%).

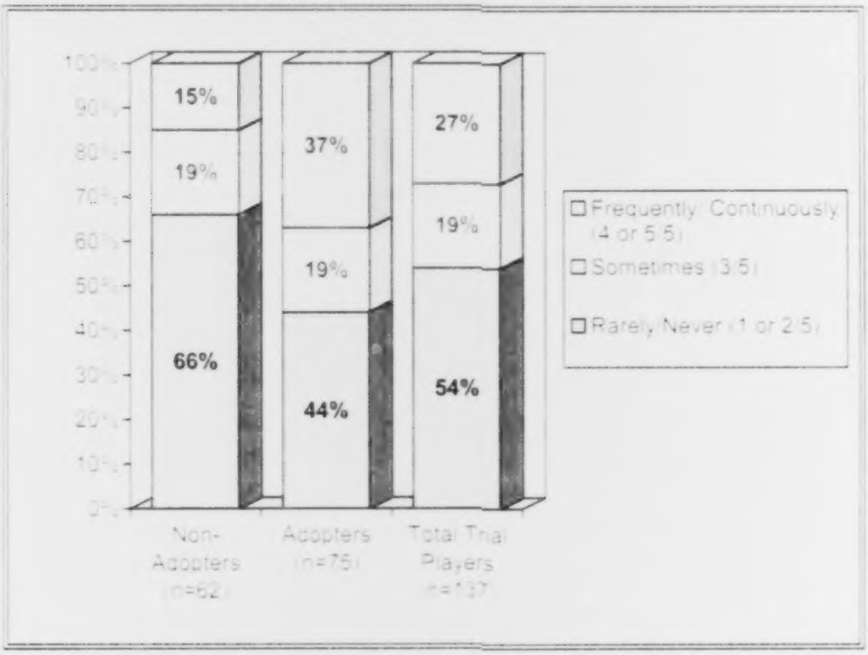
However, it is noteworthy that use of the clock is similar among all four risk groups, even though session length increases with risk of problem gambling. This indicates that use of the clock is in response to frequency of play on the new terminals (familiarity with the feature) rather than how long the play sessions last.

When considering only those participating players who tried the new terminals, the majority (54%) rarely or never refer to the on-screen clock. Not surprisingly, those who have not taken up regular play on the modified machines (Non-Adopters) are less inclined to look at the on-screen clock when playing than those who play on the new terminals regularly. **In fact, nearly one-quarter (24%) of Adopters report referring to the clock continuously while playing, compared to only 6% of Non-Adopters.**

This discrepancy in use of the on-screen clock likely reflects differences in familiarity with the new terminals. Adopters, who have spent more time playing on the new machines, should have higher comfort levels in using the various features available. Non-Adopters who, by definition, are still playing primarily on the old machines, are not yet used to having a clock option.

Among players in each of the CPGI risk groups, there are no significant differences in the frequency of reference to the on-screen clock. While No Risk Players are least likely to have tried the new terminals (74% versus 93% of Problem Players), a similar proportion in each of the four risk groups (20% to

Figure 2.10 – Frequency Of Referring To The On-Screen Clock By Play Of New Terminals – For Those Who Have Tried The New Machines
Wave 4 Only



The results suggest that as players gain greater familiarity with the new terminals, they are more likely to use the on-screen clock during play. This rate of frequent use is over twice as high among Adopters (37%) compared to those continuing to play primarily on the old machines (15%).

However, it is noteworthy that use of the clock is similar among all four risk groups, even though session length increases with risk of problem gambling. This indicates that use of the clock is in response to frequency of play on the new terminals (familiarity with the feature) rather than how long the play sessions last.

When considering only those participating players who tried the new terminals, the majority (54%) rarely or never refer to the on-screen clock. Not surprisingly, those who have not switched regular play to the modified machines (Non-Adopters) are less inclined to look at the on-screen clock when playing than those who play on the new terminals regularly. [illegible] (24%) [illegible] Adopters [illegible] referring [illegible] continuously [illegible] compared [illegible] Non-Adopters.

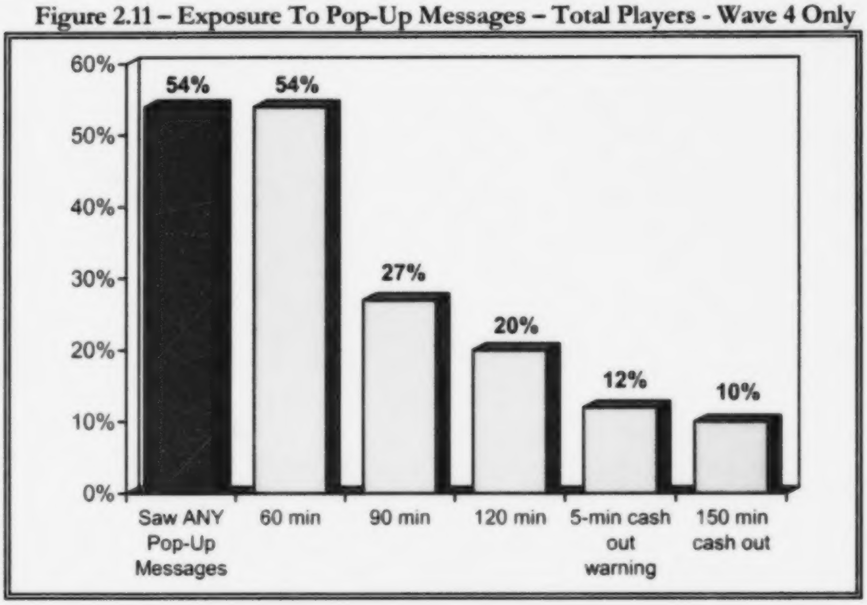
This finding [illegible] reflects differences in familiarity with the new terminals. Adopters, who have spent more time playing on the new machines, should have higher comfort levels in using the various features available. Non-Adopters who, by definition, are still playing primarily on the old machines, are not as used to having a clock option.

Among players in each of the CPGI risk groups, there are no significant differences in the frequency of reference to the on-screen clock. While No Risk Players are less likely to have tried the new terminals (74% versus 85% of Problem Players), a similar proportion in each of the four risk groups (20% to

26%) indicate that they check the on-screen clock on a frequent or continuous basis. This uniform use of the clock is noteworthy, since length of play increases with risk for problem gambling. Thus, referring to the on-screen clock is more likely to occur in response to frequency of play on the new terminals (i.e., familiarity with the feature) rather than as a response to how long the session lasts.

Exposure To Pop-Up Messages

Figure 2.11 – Exposure To Pop-Up Messages – Total Players - Wave 4 Only



Over half (54%) of all participating VL players were exposed to at least one pop-up message, representing nearly two-thirds of those who have tried the new machines (64% of trial players).

The 60-minute message reaches the most players (54%), with exposure rates dropping by half for the 90-minute pop-up (27%). Exposure then drops by about one-quarter for the 120-minute reminder (20%), then declines by almost half again for the 5-minute warning (12%). One out of 10 participating players recall seeing the mandatory cash out message after 150 minutes of continuous play.

The majority (54%) of participating players recall seeing at least one of the pop-up messages featured on the new machines, representing an exposure rate of nearly two-thirds (64%) for those who have ever played on the new terminals.

Exposure to the 90-minute pop-up reminder is half that of the 60-minute reminder, with just over one-quarter of all players (27%, or one-third of all trial players) seeing the message appear after an hour and a half of continuous play. One in five participating players recall seeing the 120-minute pop-up message (20%), with half as many having played for 145 continuous minutes in order to see the mandatory cash out warning message and experiencing the mandatory cash out at 150 minutes.

Table 2.13 – Exposure To Pop-Up RGFs During Play On New Terminals – By Play Of New Terminals & By Player Status (Wave 4 Only)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
EXPOSURE TO POP-UP MESSAGES							
		***		***			
Saw ANY pop-up messages	**54%**	33%	79%	26%	54%	69%	77%
		***		***			
Saw the 60 minute pop-up message	**54%**	33%	79%	26%	54%	69%	77%
		***		***			
Saw the 90 minute pop-up message	**27%**	16%	41%	6%	25%	36%	53%
		***		***			
Saw the 120 minute pop-up message	**20%**	8%	35%	2%	15%	28%	47%
		***		***			
Saw the 5 minute cash out warning (145 min)	**12%**	3%	21%	2%	8%	13%	30%
		***		***			
Saw the mandatory cash out message (150 min)	**10%**	3%	17%	2%	8%	13%	20%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

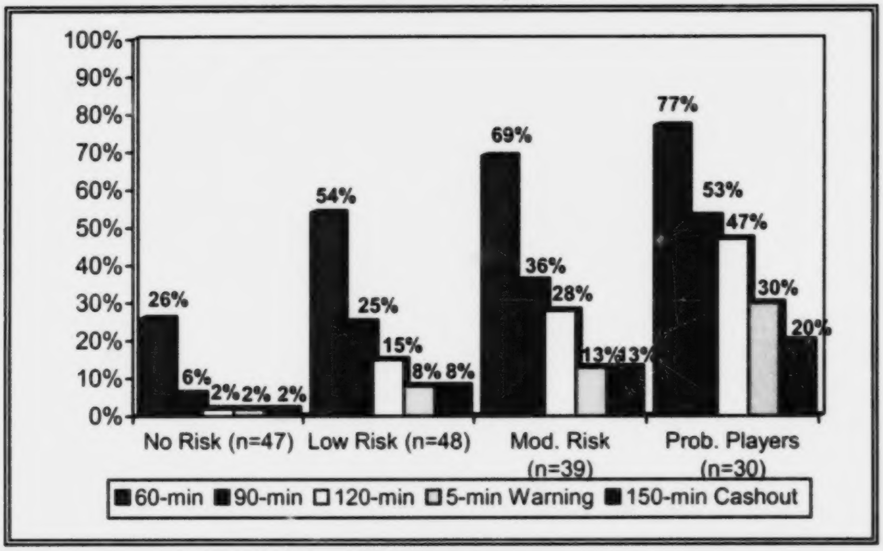
Considering that Non-Adopters were less inclined to have even tried playing the new terminals, it is not surprising that Adopters are significantly more likely to have been exposed to any of the pop-up reminder messages than those who mainly played on the old terminals. Still, nearly half of Non-Adopters who tried the machines (47%, or 33% of all Non-Adopters) saw any of the pop-up messages, primarily the 60-minute reminder. In contrast, the strong majority of Adopters (79%) saw the 60-minute message, with 41% exposed to the 90-minute pop-up and over one-third (35%) seeing a message pop-up after 2 hours of continuous play. More than one-fifth of Adopters (21%) report seeing the 5-minute cash out warning, and 17% were exposed to the mandatory cash out feature at 150-minutes (versus 3% of Non-Adopters exposed to either of these messages).

Not surprisingly, Adopters, who adopted regular play on the new terminals with RGFs, are significantly more likely to have seen each of the pop-up reminders compared to Non-Adopters. However, even without taking up regular play on the modified terminals, nearly half of all Non-Adopters who tried the new machines saw the 60-minute message (47%, or 33% of all Non-Adopters).

Approximately one in five Adopters (21%) played the new games for 145 continuous minutes on at least one occasion, and 17% were exposed to the 150-minuted mandatory cash out feature.

Figure 2.12 – Exposure To The Pop-Up Reminders – By Player Status
Wave 4 Only

The tendency for Problem Players to play VL games more frequently and for longer time periods is reflected in higher exposure levels for the pop-up reminders. Exposure for each of the pop-up messages increases with risk level for developing problems with VL play.



The majority of Problem Players who tried the modified terminals (51%, or 47% of all participating Problem Players) saw the 120-minute pop-up message after 2 hours of continuous play. Players in this risk group are also most likely to have seen the 5-minute mandatory cash out warning, and were the only group for which some players acted on the warning and cashed out prior to experiencing the mandatory cash out feature.

The tendency of Problem Players to play the new or modified terminals more frequently and for longer time periods is reflected in exposure levels for the pop-up reminders. Just over three-quarters of Problem Players (77%, or 83% of those who have tried the new machines) saw the 60-minute pop-up message, compared to 54% in the Low Risk group and only one-quarter of the No Risk Players (26%). The majority of Problem Players have also seen the 90-minute reminder message (53%), compared to just over one-third of those at Moderate Risk (36%), one-quarter of Low Risk Players (25%) and only 6% of the No Risk group. Exposure to the 120-minute pop-up reminder is 28% or less for the lower risk groups, but remains at 47% of Problem Players, accounting for 51% of those in this highest risk category who have played on the new machines.

Exposure to the 5-minute cash out warning after 145 minutes of continuous play is comparatively lower than the earlier pop-up messages, but shows the same pattern of increasing with risk level. Problem Players are more than twice as likely than players in any other risk group to have seen the warning (20% versus 2% to 13%). It is also noteworthy that Problem Players are the group for which exposure drops between the 5-minute warning and the actual mandatory cash out message (30% down to 20%), while all players in the lower risk groups who saw the warning continued to play for an additional 5 minutes until the mandatory cash out feature was triggered. Thus, three of the nine Problem Players who saw the warning message stopped playing before the mandatory cash out was invoked. **This suggests that the warning of an upcoming** mandatory cash out may be effective in encouraging some Problem Players exposed to the warning to cash out on their own.

Liking of the New Terminals

To gain insight as to players' overall opinions of the new terminals, all participating players who had ever tried the new machines with RGFs were asked to rate how much they like the new machines compared to the old, and asked to specify any aspects or features of the new or modified terminals they particularly like or dislike. All trial players were also asked to describe anything they would like to see changed about the machines.

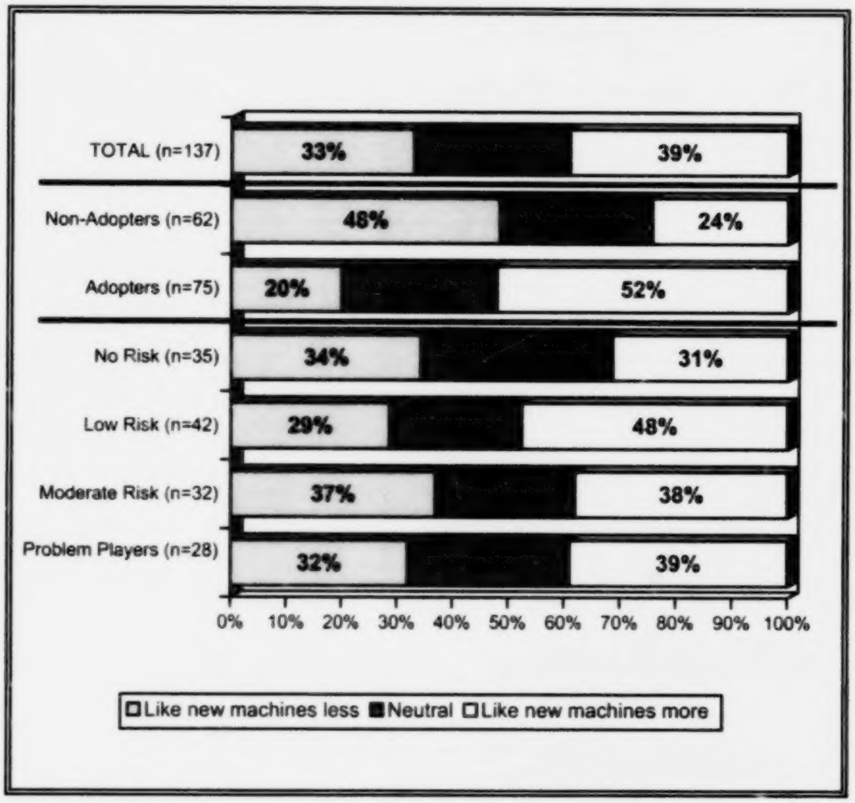
Players' selection of a terminal can be influenced by many factors, such as familiarity, the availability of preferred games, desire for variety, accessibility, perceptions of lucky machines, placement of the machine in the location, preference for certain features such as stop buttons or bill acceptors. In the present study, comparative liking for the new versus old terminals provides a general indication of players' preferences that minimize the influence of other factors affecting actual play of the terminals.

Table 2.14 – Liking of the New Terminals – By Play of New Terminals & By Player Status (Wave 4 Only)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
PREFERENCE FOR NEW MACHINES OVER OLD MACHINES							
		***		NS			
Like new machines LESS (1 or 2/5)	**27%**	34%	20%	26%	25%	31%	30%
Neutral (3/5 or DK)	**23%**	19%	28%	26%	21%	20%	27%
Like new machines MORE (4 or 5/5)	**33%**	17%	52%	23%	42%	31%	37%
(Never played new machines)	**16%**	30%	---	26%	12%	18%	7%
		***		NS			
	n=137	n=62	n=75	n=35	n=42	n=32	†n=28
Average (out of 5)	**3.1**	2.5	3.6	2.9	3.3	3.1	3.1
Median (out of 5)	**3.0**	3.0	4.0	3.0	3.0	3.0	3.0

† Due to small sample sizes (n<30) means/medians should be viewed with caution.
NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Figure 2.13 – Comparative Liking – New Machines Versus Old Machines For Those Who Have Ever Played The New Machines – By Play Of New Terminals & Player Status (Wave 4 Only)

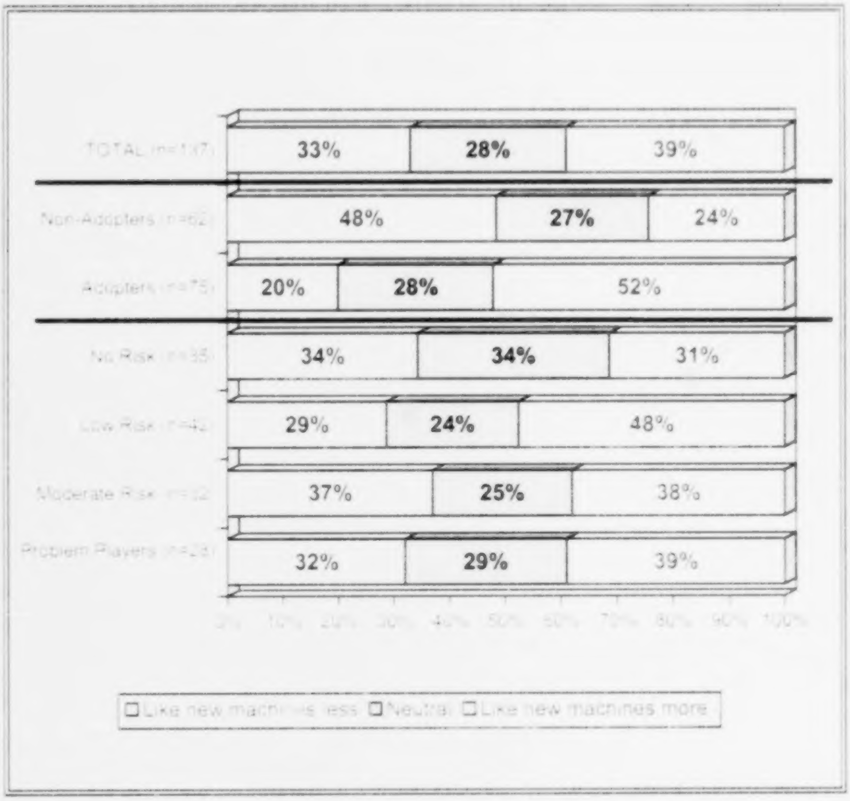


When participating players who have ever played VL games on the new terminals are considered, Adopters are more than twice as likely as Non-adopters to prefer the new machines over the old. Preference is similar for players by risk status group, and tends to be more evenly divided between preferring the new machines or preferring the standard non-RGF terminals.

When only those participating players who have ever tried the new or modified machines are considered, preference for the new terminals over the old terminals differs significantly based on current play preferences, but does not differ by player status. **Not surprisingly, participating players who choose to play VL primarily on the new terminals are more than twice as inclined to report preferring the new or modified machines, compared to those who choose to continue mainly playing the old terminals (52% versus 24%).** The fairly even distribution of Adopters among the Low to Problem player groups is evidenced by similar proportions of players in each of these status segments indicating a preference for the new terminals over the old ones.

Figure 2.13 – Comparative Liking – New Machines Versus Old Machines For Those Who Have Ever Played The New Machines – By Play Of New Terminals & Player Status (Wave 4 Only)

When participating players who have ever played VL games on the new terminals are considered, Adopters are more than twice as likely as Non-adopters to prefer the new machines over the old. Preference is similar for players by risk status group, and tends to be more evenly divided between preferring the new machines or preferring the standard non-RGF terminals.



When only those participating players who have ever tried the new or modified machines are considered, preference for the new terminals over the old terminals differs significantly based on current play preferences, but does not differ by player status. Non-Adopters [illegible] to play VL primarily [illegible] preferring the new or modified machines, [illegible] playing [illegible] terminals [illegible]. The fairly even distribution of Adopters among the Low to Problem player groups is evidenced by similar proportions of players in each of these status segments indicating a preference for the new terminals over the old ones.

Preferred Aspects Of The New Terminals

Table 2.15 – Preferred Aspects Of The New Terminals – By Play Of New Terminals & By Player Status (Wave 4 Only)

	PLAY OF NEW TERMINALS			PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
% who have ever played the new machines	**84%**	**70%**	**100%**	**74%**	**88%**	**82%**	**93%**
PREFERRED ASPECTS OF NEW MACHINES							
Like new games	**51%**	32%	75%	30%	56%	64%	60%
Like bill acceptors	**24%**	24%	25%	34%	23%	20%	17%
Like on-screen clock	**8%**	9%	8%	6%	12%	5%	10%
Like cash instead of credits	**7%**	4%	9%	2%	15%	5%	3%
Like appearance of machine	**5%**	6%	4%	4%	2%	5%	10%
Other aspects	**6%**	3%	9%	4%	6%	3%	13%
Nothing in particular	**9%**	11%	7%	13%	4%	8%	13%
(Never played new machines)	**16%**	30%	---	26%	12%	18%	7%

▨ - indicates significant differences at the 90%+ confidence level (p<0.10)

Although only 37% of participating players (39% of those who have tried the new machines) report a preference for the new terminals over the old ones, three-quarters can describe at least one aspect of the new or modified machines that they like. As has been the case over the past three measurements, **the new games or variety of games available to choose from on the new terminals is the primary basis of appeal. Over half of those who have tried the new terminals (61%, or 51% of all participating players) specifically mention the appeal of the new and different games.** Not surprisingly, those with more experience on the new terminals are more likely to mention this preferred aspect than those who tend to play the old machines more often (Adopters versus Non-Adopters, Low to Problem Players versus No Risk Players).

At a distant second, 29% of those who have tried the RGF machines (24% of all participants) specifically note the convenience of the **bill acceptor** as a preferred aspect. Contrary to liking measures for most other individual features, the appeal of the bill acceptor has not declined over the past three waves as exposure to the new machines continues. Currently, players in all groups are similarly likely to report the bill acceptor as a reason for liking the new machines.

Approximately 8% of participating VL players (10% of trial players) like the on-screen clock feature. The appeal of the on-screen clock has remained at a similar level over the last three measurements.

Other preferred features of the new machines, each mentioned by less than 10% of participating players, include the use of cash amounts instead of credits (7%), the general appearance of the machines (5%), or other aspects of the new or modified terminals (6%), including such features as the pop-up reminders, the mandatory cash out feature, the odds of winning, and the ease of playing.

Disliked Aspects of the New Terminals

Table 2.16 – Disliked Aspects of the New Terminals – By Play of New Terminals & By Player Status (Wave 4 Only)

	PLAY OF NEW TERMINALS			PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
% who have ever played the new machines	**84%**	**70%**	**100%**	**74%**	**88%**	**82%**	**93%**
DISLIKED ASPECTS OF NEW MACHINES							
Dislike new games	**10%**	11%	9%	15%	4%	10%	13%
Dislike odds of winning	**10%**	9%	11%	8%	8%	8%	17%
Dislike bill acceptors	**10%**	6%	15%	4%	15%	13%	7%
Dislike play value for money spent	**9%**	6%	13%	**2%**	8%	10%	**20%**
Dislike pop-up reminders	**7%**	3%	12%	8%	4%	8%	10%
Dislike mandatory cash out	**6%**	3%	8%	4%	4%	5%	10%
Dislike clock	**4%**	1%	7%	2%	2%	5%	7%
Other aspects	**10%**	11%	8%	11%	12%	10%	3%
Dislike nothing	**27%**	27%	27%	28%	29%	26%	23%
(Never played new machines)	**16%**	30%	—	**26%**	**12%**	18%	7%

▨	- indicates significant differences at the 90%+ confidence level (p<0.10)

Overall, specific reasons for disliking the new RGF terminals have remained similar over the last three measurement periods. More than one-quarter of participants (27%,

Preferred Aspects Of The New Terminals

Table 2.15 – Preferred Aspects Of The New Terminals – By Play Of New Terminals & By Player Status (Wave 4 Only)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
% who have ever played the new machines	**84%**	70%	**100%**	74%	**88%**	**82%**	**93%**
PREFERRED ASPECTS OF NEW MACHINES							
Like new games	**51%**	**32%**	**75%**	**30%**	56%	64%	60%
Like bill acceptors	**24%**	24%	25%	34%	23%	20%	17%
Like on-screen clock	**8%**	9%	8%	6%	12%	5%	10%
Like cash instead of credits	**7%**	4%	9%	2%	15%	5%	3%
Like appearance of machine	**5%**	6%	4%	4%	2%	5%	10%
Other aspects	**6%**	3%	9%	4%	6%	3%	13%
Nothing in particular	**9%**	11%	7%	13%	4%	8%	13%
(Never played new machines)	**16%**	30%	---	**26%**	**12%**	18%	7%

☐ - indicates significant differences at the 90%+ confidence level (p<0.10)

Although only 37% of participating players (39% of those who have tried the new machines) report a preference for the new terminals over the old ones, three-quarters can describe at least one aspect of the new or modified machines that they like. As has been the case over the past three measurements, the new **games or variety of games available to choose from on the new terminals is the primary basis of appeal. Over half of those who have tried the new terminals (61%, or 51% of all participating players) specifically mention the appeal of the new and different games.** Not surprisingly, those with more experience on the new terminals are more likely to mention this preferred aspect than those who tend to play the old machines more often (Adopters versus Non-Adopters, Low to Problem Players versus No Risk Players).

At a distant second, 29% of those who have tried the RGF machines (24% of all participants) specifically note the convenience of the **bill acceptor** as a preferred aspect. Contrary to liking measures for most other individual features, the appeal of the bill acceptor has not declined over the past three waves as exposure to the new machines continues. Currently, players in all groups are similarly likely to report the bill acceptor as a reason for liking the new machines.

Approximately 8% of participating VL players (10% of trial players) like the on-screen clock feature. The appeal of the on-screen clock has remained at a similar level over the last three measurements.

Other preferred features of the new machines, each mentioned by less than 10% of participating players, include the use of cash amounts instead of credits (7%), the general appearance of the machines (5%), or other aspects of the new or modified terminals (6%), including such features as the pop-up reminders, the mandatory cash out feature, the odds of winning, and the ease of playing.

Disliked Aspects of the New Terminals

Table 2.16 – Disliked Aspects of the New Terminals – By Play of New Terminals & By Player Status (Wave 4 Only)

	PLAY OF NEW TERMINALS			PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
% who have ever played the new machines	**84%**	70%	**100%**	74%	**88%**	82%	**93%**
DISLIKED ASPECTS OF NEW MACHINES							
Dislike new games	**10%**	11%	9%	15%	4%	10%	13%
Dislike odds of winning	**10%**	9%	11%	8%	8%	8%	17%
Dislike bill acceptors	**10%**	6%	15%	4%	15%	13%	7%
Dislike play value for money spent	**9%**	6%	13%	**2%**	8%	10%	**20%**
Dislike pop-up reminders	**7%**	3%	12%	8%	4%	8%	10%
Dislike mandatory cash out	**6%**	3%	8%	4%	4%	5%	10%
Dislike clock	**4%**	1%	7%	2%	2%	5%	7%
Other aspects	**10%**	11%	8%	11%	12%	10%	3%
Dislike nothing	**27%**	27%	27%	28%	29%	26%	23%
(Never played new machines)	**16%**	30%	---	**26%**	**12%**	18%	7%

☐ - indicates significant differences at the 90% + confidence level (p<0.10)

Overall, specific reasons for disliking the new RGF terminals have remained similar over the last three measurement periods. More than one-quarter of participants (27%, or one-third of those who have tried the new machines) **cannot think of anything in particular that they dislike.** In contrast to preferred aspects, there is more variety apparent in the features or characteristics players dislike, with fewer noting each one.

Approximately 10% of participants (12% of players who have ever tried the new RGF terminals) **dislike the new games** featured on the machines.

Ten percent of participants believe that the **odds of winning or payouts** are either worse on the new machines than the old VLTs, or have become worse since the new machines were first rolled out.

A similar 10% of participating VL players (12% of those who have ever played the modified terminals) dislike the **bill acceptors**, similar across all player groups.

Other aspects of the new terminals disliked by less than 10% of participants include the **perceived play value provided for the money spent** (9%), the **pop-up reminders** (7%), the **mandatory cash out feature** (6%), the **on-screen clock** (4%), or various **other aspects** of the machines (10%), including the use of cash instead of credits, the appearance of the new machines and its features, and difficulty in playing.

Suggested Changes To The New Terminals

Table 2.17 – Suggested Changes To The New Terminals – By Play Of New Terminals & By Player Status (Wave 4 Only)

	PLAY OF NEW TERMINALS			PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
% who have ever played the new machines	**84%**	**70%**	**100%**	**74%**	**88%**	**82%**	**93%**
SUGGESTED IMPROVEMENTS/CHANGES TO NEW MACHINES							
Would Like Better Payouts	**8%**	6%	12%	4%	10%	8%	13%
Take Off Pop-Up Reminders	**7%**	1%	13%	4%	6%	8%	10%
Prefer Old Familiar Games	**7%**	10%	4%	13%	---	10%	7%
Take Off The Bill Acceptors	**6%**	3%	8%	2%	4%	13%	3%
Other Machine Features (ie: Stop Play, No Sound)	**6%**	4%	8%	6%	6%	3%	10%
Other Suggestions	**26%**	11%	44%	11%	25%	28%	50%
Nothing in particular/Unsure	**31%**	36%	25%	36%	42%	26%	13%

▨ - indicates significant differences at the 90%+ confidence level (p<0.10)

As part of the Post 3 survey, participants who had ever tried the new video lottery terminals with the responsible gaming features were asked to specify what, if anything, they would like to see changed about the new or modified machines. **The largest proportion (37% of trial players or 31% of participating players) were unable to offer any suggestions.**

There are no specific areas or features of the new machines that emerge as a priority for change among players. There tends to be a variety of suggested changes, with a few people noting each specific topic. When considered as a group, removal of one or more of the new/additional features comprises the most often suggested change, with a total of 20% of trial players indicating that they would like to see the removal of the bill acceptors, display of cash amounts instead of credits, the on-screen clock, the pop-up-reminders, and/or the mandatory cash out feature.

Top 3 Suggested Changes To The New Terminals:

- ***improve payout (8% of participants; 10% of those who have tried the new machines)***
- ***take off pop-up reminders (7% of participants; 8% of trial players)***
- ***put old games on new machines (7% of participants; 8% of trial players)***

More than one-third of players who have tried the new machines (37%) are unable to offer any suggested changes to the new terminals (31% of all participating players).

One out of five trial players (20%) would like to see one or more of the new features (RGFs or bill acceptors) removed from the new machines (17% of all participating players).

Suggested Changes To The New Terminals

Table 2.17 – Suggested Changes To The New Terminals – By Play Of New Terminals & By Player Status (Wave 4 Only)

	PLAY OF NEW TERMINALS			PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
% who have ever played the new machines	**84%**	**70%**	**100%**	**74%**	**88%**	**82%**	**93%**
SUGGESTED IMPROVEMENTS/CHANGES TO NEW MACHINES							
Would Like Better Payouts	**8%**	6%	12%	4%	10%	8%	13%
Take Off Pop-Up Reminders	**7%**	**1%**	**13%**	4%	6%	8%	10%
Prefer Old Familiar Games	**7%**	10%	4%	13%	---	10%	7%
Take Off The Bill Acceptors	**6%**	3%	8%	2%	4%	13%	3%
Other Machine Features (ie: Stop Play, No Sound)	**6%**	4%	8%	6%	6%	3%	10%
Other Suggestions	**26%**	**11%**	**44%**	**11%**	**25%**	**28%**	**50%**
Nothing in particular/Unsure	**31%**	36%	25%	**36%**	**42%**	26%	**13%**

	- indicates significant differences at the 90%+ confidence level (p<0.10)

As part of the Post 3 survey, participants who had ever tried the new video lottery terminals with the responsible gaming features were asked to specify what, if anything, they would like to see changed about the new or modified machines. The largest proportion (37% of trial players or 31% of participating players) were unable to offer any suggestions.

There are no specific areas or features of the new machines that emerge as a priority for change among players. There tends to be a variety of suggested changes, with a few people noting each specific topic. When considered as a group, removal of one or more of the new/additional features comprises the most often suggested change, with a total of 20% of trial players indicating that they would like to see the removal of the bill acceptors, display of cash amounts instead of credits, the on-screen clock, the pop-up-reminders, and/or the mandatory cash out feature.

Top 3 Suggested Changes To The New Terminals:

- ***improve payout (8% of participants; 10% of those who have tried the new machines)***
- ***take off pop-up reminders (7% of participants; 8% of trial players)***
- ***put old games on new machines (7% of participants; 8% of trial players)***

More than one-third of players who have tried the new machines (37%) are unable to offer any suggested changes to the new terminals (31% of all participating players).

One out of five trial players (20%) would like to see one or more of the new features (RGFs or bill acceptors) removed from the new machines (17% of all participating players).

In terms of individual suggestions, 8% of all participating VL players (or 10% of those who have tried the new machines) suggest improving the **payouts/odds of winning for the new games**.

Other changes suggested for the new machines include **getting rid of the pop-up reminders** (8% of participating players), offering the **old games on the new machines** (7%), **removing the bill acceptors** (6%), or a variety of **other suggestions** (26%), each mentioned by few players – primarily those with the greatest experience on the new terminals - including increasing the number of games available on the new terminals, returning to playing with credits instead of cash, removing the on-screen clock and/or the mandatory cash out feature, improving the play value, changing the size of the machines (too tall), and removing VLTs altogether (4%).

Perceived Effects of New Machines on Time/Money Spent

After discussing their general VL playing patterns, opinions of each RGF, experiences playing the new machines and detailed likes/dislikes about the new machines, all participating players who had tried the new machines were asked to rate how much effect they believe the "new or modified machines" had on reducing the amount of time and money they spend playing video lottery on a per time basis.

Table 2.18 – Perceived Effect Of The New Machines On Reducing Time/Money Spent Playing Video Lottery Per Session – By Play Of New Terminals & By Player Status (Wave 4 Only)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
EFFECT ON REDUCING TIME SPENT PLAYING							
		***		*			
Little Effect (1 or 2/5)	**56%**	51%	61%	57%	58%	49%	57%
Neutral (3 or DK)	**12%**	10%	15%	11%	10%	20%	7%
Some Effect (4 or 5/5)	**16%**	9%	24%	6%	19%	13%	30%
(Never played new machines)	**16%**	30%	---	26%	12%	18%	7%
		NS		NS			
	n=137	n=62	n=75	n=35	n=42	n=32	†n=28
Average (out of 5)	**2.0**	1.8	2.2	1.6	2.1	2.1	†2.4
Median (out of 5)	**1.0**	1.0	1.0	1.0	1.0	1.0	†1.0
EFFECT ON REDUCING MONEY SPENT PLAYING							
		***		NS			
Little Effect (1 or 2/5)	**56%**	49%	64%	51%	58%	62%	53%
Neutral (3 or DK)	**12%**	10%	15%	13%	15%	8%	13%
Some Effect (4 or 5/5)	**15%**	10%	21%	11%	15%	13%	27%
(Never played new machines)	**16%**	30%	---	26%	12%	18%	7%
		NS		NS			
	n=137	n=62	n=75	n=35	n=42	n=32	†n=28
Average (out of 5)	**2.0**	1.9	2.1	1.9	2.0	1.8	†2.3
Median (out of 5)	**1.0**	1.0	1.0	1.0	1.0	1.0	†1.0

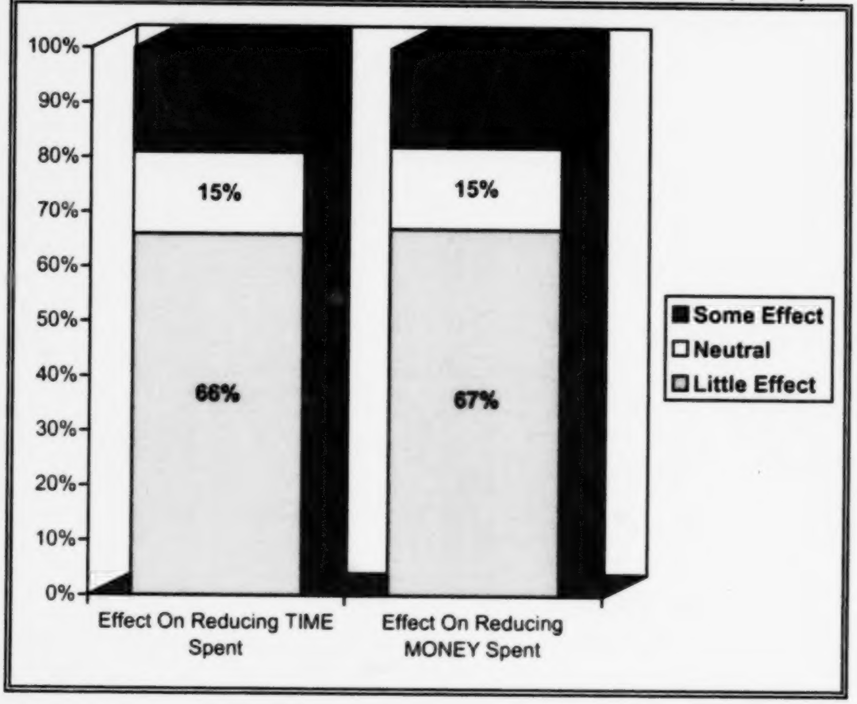
† Due to small sample sizes (n<30) means/medians should be viewed with caution.
NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

The majority of players in every segment believe that the new machines with RGFs will have little to no effect on reducing either time or money spent playing video lottery games. Adopters are more likely to believe they will derive benefits from the new terminals in this regard (24%). Compared to lower risk players (particularly those at Moderate Risk), Problem Players are more inclined to believe the new terminals will have some effect on reducing the time spent playing (30% versus 6% to 19%) and are less likely to offer neutral ratings on the issue (7% versus 10% to 20%).

The majority of players, regardless of whether or not they have ever played VL games on the new terminals with RGFs, believe that the new machines will have little to no effect on reducing either time or money spent playing video lottery games.

It is noteworthy that almost one-third of Problem Players felt the new terminals may have a least some effect in mediating time (30%) or money spent (27%). However, in comparison to the other non-problem players, the results for the Problem Players only differed significantly in terms of reducing time (30% versus 6% to 19%).

Figure 2.14 –Perceived Effects Of New Machines On Time & Money Spent – Wave 4 Total Players Who Have Tried The New Machines (n=137)



Overall, about one in every six players who have ever tried the new terminals and one-quarter of those who adopted regular play, believe that the new machines will have at least some effect in reducing the amount of time and/or money spent while playing on the new machines.

When only trial players are considered (i.e., those players who have ever played VL games on the new machines), perceived effectiveness of the new machines in reducing time and/or money spent is similar among all groups, and for both measures. Two-thirds of trial players believe that the "new or modified machines" had little to no effect on reducing the amount of time they spent playing, and/or on reducing the amount of money they spent playing video lottery on a per time basis. **This means that approximately one in five players on the new terminals expect to derive benefits either in reduced time and/or money spent.**

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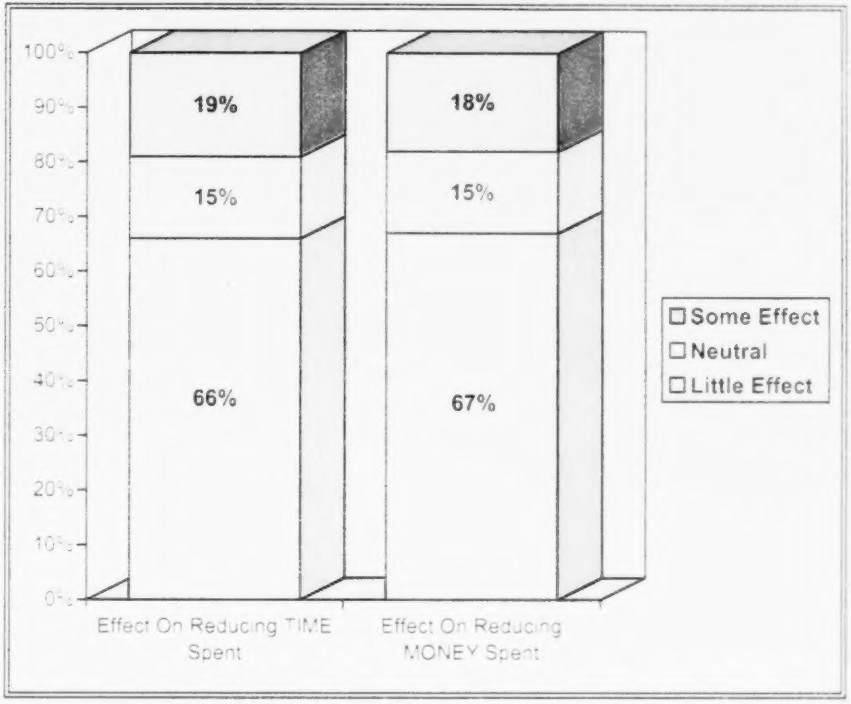

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Market
Research
& Development

ATLANTIC LOTTERY CORPORATION
VIDEO LOTTERY RESPONSIBLE GAMING FEATURE RESEARCH - FINAL REPORT

October, 2002

PLAY BEHAVIOURS & GAME OUTCOMES ON A PER SESSION BASIS

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SECTION 3 - PLAY BEHAVIOURS & GAME OUTCOMES PER SESSION
PREPARED BY FOCAL RESEARCH CONSULTANTS LTD.

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Section 3

PLAY BEHAVIOURS AND GAME OUTCOMES - ON A PER SESSION BASIS

> ***"In order to understand the likely impact of the proposed changes to the patterns of play amongst problem and recreational gamblers it is important to observe the usual patterns of patrons…"[1] and by extension patterns of play as they occur in response to play on the modified machines.***

Summary and Discussion

Clearly, there were distinctive differences in how players in the various groups responded to the VL games each time they played. These differences have implications not only in terms of "what behaviours" contribute to risk for problem play but also as to "what modifications/interventions" at a machine level are most likely to be of value in mitigating these behaviours. Moreover, insight is gained regarding input for supplemental interventions or support materials that are relevant and, thus, most likely to be of benefit in assisting players to manage their play, such as player responsible gaming guidelines or budgeting strategies.

Key Findings Related to Risk for Problem VL Play

- Higher risk players are more likely to be at the location to specifically play and, thus, video lottery is more often a planned rather than impulsive activity for these players. **As the decision to play is made well in advance of actual involvement in the games, there may be an opportunity to introduce budgeting and other play strategies for managing time and money as part of their "planning" process, prior to taking part in play and/or at the point of initiating play on the machine.**

---

[1] Final Report: The Assessment of the Impact of the Reconfiguration on Electronic Gaming Machines as Harm Minimization Strategies For Problem Gambling; Alex Blaszczynski, Louise Sharpe, Michael Walker; University of Sydney Gambling Research Unit; November, 2001.

- **The frequent involvement of friends or family members, typically on the same machines when playing the new terminals, suggests that this social aspect of play merits special consideration.** Approximately one third to one half of all plays involve others on the same (≈20% to 34%) or a nearby terminal (≈6% to 12%), regardless of risk for problem play. This means that in at least one out of every five plays, two individuals are playing together.

- Amounts of money used to initiate play are similar among all players, however, the **number of times additional funds are inserted during play increases with risk for problem gambling.**

- **The amount first put in at the start of play was twice as high for plays on the new terminals** (about $20.00 versus $10.00). This is most likely to be related to the availability of the bill acceptors on the new terminals.

- **The average number of times continuous play during a session is interrupted also increases with risk,** ranging from a low of 3.5 times for No Risk Players to a high of 9.8 times for Problem Players. (For the purpose of the current study, continuous play refers to a single play period without any cash out or having credits run down to zero, thereby resetting the timing mechanism for the pop-up messages.)

- **Running credits down to zero before putting in more funds is the primary behaviour interrupting continuous play and distinguishes non-problem from Problem Players,** especially on the new terminals (5 to 8 times per session versus 2 to 4 times).

- Whether on the old or new terminals, all players tend to play for approximately 25 to 30 minutes before the session is first interrupted, **although the longest period of continuous play for those at any level of risk for problem gambling tends to last on average for approximately 40 minutes. Only on the new terminals were Problem Players reporting longer periods of continuous play (≈60 minutes).**

- Although Problem Players are significantly more likely to be playing for continuous periods of 60 minutes or more during each session (57% versus 29% to 34%), there were no differences among those at any level of risk in the percentage reporting continuous play of 90 minutes or more (18% to 24%). **Thus, after the 60 minute mark, continuous play on a per session basis is not an effective discriminator for problem VL play.**

- **Not surprisingly, in half of all plays on the new terminals, Problem Players were exposed to the 60-minute message, twice as high an exposure rate as reported by non-problem players.**

- For all of the other pop-up messages and the mandatory cash out feature, there were no differences in exposure among any of the player segments, with the exception of those at No Risk. **Therefore, aside from the 60-minute pop-up, the remaining features triggered after 90 minutes of continuous play are not necessarily preferentially reaching those at higher risk for problem gambling during each play session.**

  Of course, due to greater frequency of play, those at higher risk will be exposed to the latter messages more often over time. The features were originally designed to exert influence at the time of intervention. The intention is to encourage the player to evaluate whether or not they wish to continue playing at a critical point when stopping would be expected to have a significant effect in reducing the consequences of excessive play. It could be that effects of repeated exposure will lead to long-term changes in behaviour, either in reducing play or in efforts to avoid seeing the message. Alternatively, players may simply become inured to the messages, responding by rote or habit particularly if other factors associated with continuous play are overriding the effect of seeing the message (e.g., chasing losses).

- Players in all groups typically play only one preferred game during each session on the old terminals. Traditionally in Nova Scotia, the most popular games are Swinging Bells, a three reel line-up game (≈66%); Aces Fever (≈21% to 30%) and Joker Poker (≈11% to 20%), both of which are video poker games. **Only Problem Players report greater variety in the number of games played during each session (42% versus 17% to 30% playing two or more individual games per session on the old machines).**

- **On the new terminals, the majority of players in all segments reported playing more than one game during each session (54% to 61%).** Preferences are strongly shifted towards the new games rather than new versions of old favourites, especially Wild Arctic, a new reel line-up game (51% to 63%) and, to a lesser extent, Royal Spins (≈30%), and Magic Merlin (≈30%). **Given the strong skew towards the "new" offerings, it can be concluded that the availability and appeal of these new games is likely a key driver in motivating players to choose to play on the new machines.**

- **Lower risk players were more likely to stop play when they had spent their budgeted amount of money, ran out of time, or experienced a "big" win. In**

contrast, running out of time or money was most likely to precipitate stopping by higher risk players. In particular, Problem Players were more than twice as likely to report stopping only when they had run out of money (≈40% versus 4% to 16%) whether they had played on the old or new terminals. **Again, this reflects the critical role of effective budgeting or the absence thereof for game outcomes.**

- **Regardless of type of terminal, the length of play increased with risk for problem gambling, with sessions by Problem Players on average lasting twice as long as those of No Risk Players.** Approximately half of all plays by those at Moderate Risk lasted for 90 minutes or more and this increased to up to 81% of sessions by Problem Players. **Thus, it is the overall length of the play session, as opposed to continuous play, that most strongly differentiates player risk.**

- On the new terminals, due to significantly longer sessions among the lower risk players, there were no longer any differences in average per session length between the three non-problem player segments. Session length was similar for higher risk players, whether plays occurred on the old or new terminals. **However, those at Moderate Risk were significantly more likely to be believe the length of time played on the new machines was "shorter than intended" (40%).**

- **Higher risk players were significantly less likely to be losing track of time on the new machines** (≈24% of times played) than on the old terminals (≈40% of times played).

  In Section 2, general improvements were observed in awareness for time and money spent over the course of the study and this occurred among all player groups. Thus, it was speculated that this response may be partially related to a testing effect such that taking part in the study heightened players' sensitivity to the amount of time and money being spent during play. However, the results on a per session level suggest that some aspect of the new terminals is influencing players' awareness of passing time since participating in the study did not lead to any improvements for plays that occurred on the old machines.

- **On the old terminals, there were no differences in game outcomes among the three non-problem segments with just over half of all sessions ending in a loss position as compared to 84% of sessions by Problem Players.**

- Sessions by No Risk Players were more likely to end in a win on the new versus old terminals (51% versus 37%) whereas Moderate Risk Players were more likely to have lost (72% versus 55%). **In fact, the percentage of sessions ending in a**

loss on the new terminals was significantly lower among the lower risk players than for those at higher risk (≈44% versus ≈75%).

- Moderate Risk Players not only thought they were playing for shorter time periods on the new terminals, but also ended up in a loss position more often, at rates similar to those noted for Problem Players (≈72%).

- On the old terminals, the amount spent increased with risk for problem play. **However, on the new terminals higher per session expenditures by those in the lower risk groups meant that there were no differences in the average amount spent per time among any of the non-problem segments. Problem Players continued to spend at rates two to three times higher ($125.82 versus ≈$36.00 to $47.00).**

- Regardless of which terminal was played, in half of all sessions Problem Players report spending more money playing than intended, as compared to spending more time than desired in only about a third of all plays. **Thus, in terms of player perceptions, spending beyond desired money limits is more common and appears to have greater significance for players than exceeding time intentions.**

- There were no appreciable differences in players' perception of their expenditure between plays on either the old or new terminals. Unlike expectations for time, spending less money than intended was a rare occurrence in all player groups with the likelihood of exceeding desired spending limits increasing with risk for problem gambling.

The findings based on player behaviours and outcomes on a per session level suggest that there were some differences related to the new terminals and that these differences varied among the player groups. For the most part, improvements in keeping track of time did not appear (as yet) to translate into improved game outcomes (i.e., time and money) for those at highest risk for problem gambling. In fact, the effect of play on the new terminals appears to have been negligible for Problem Players with no discernible positive or negative impact for game outcomes at a per session level. Comparatively, lower risk players on the new terminals reported longer session lengths, higher expenditures, greater variety in games played and experienced more wins. Thus, it appears that those in the lower risk segments are making a more significant contribution in terms of time and money spent each time they played on the new terminals as compared to plays on the old terminals. For Moderate Risk Players, results are more mixed. Reductions in some play behaviours, such as the number of times more money was put into the machine and running the credits down to zero, were offset by perceptions of shorter play for the amount spent and a higher proportion of sessions ending in a loss position.

Regardless, exposure to the RGFs that are contingent upon continuous play of 90 minutes or more has little value in preferentially reaching those at higher risk during a specific play session. Beyond the 60-minute mark, it is total time spent playing rather than continuous play that differentiates non-problem and problem play. Moreover, the play behaviours that are interfering with exposure to the majority of the current RGFs are typical and entrenched. Thus, if machine interventions are to have any significant effect in influencing excessive play, the features must be designed or modified with these behaviours in mind.

Introduction

Section 3 profiles and compares specific play behaviours and game outcomes based on detailed information gathered for the last time played in each wave of the study (n=794), using a pseudo-diary approach. The data for the most recent sessions were combined and then segmented into those plays which occurred on the old terminals (n=497) versus those which occurred on the new terminals with the RGFs (n=297).

To assess the role of the RGFs in mediating player behaviours, it is necessary to understand how players respond to the machines, both in the absence and presence of such features. This is useful for informing on-going responsible gaming initiatives as it relates to player behaviours.

To assess any differences associated with recreational versus problem play, the total observations for each type of terminal were then segmented and compared based on risk for problem gambling (CPGI: No Risk, Low Risk, Moderate Risk, Problem Players) to provide a descriptive overview of player responses.

Purpose

In Section 2, information on general play behaviours, perceptions and attitudes provided a macro or big picture view of the cumulative effects of video lottery play on a regular monthly basis. This is important in determining how the introduction of machine modification or interventions are perceived by various player groups, whether or not such changes have a measurable influence for player outcomes and the magnitude of the impact in achieving change.

Most consequences for video lottery gambling accrue over time as a result of continuous or on-going involvement in the activity. However, general gambling outcomes are the sum of how players interact with the machines each time they play. While frequency of play indicates how quickly the consequences of play behaviours will accumulate, it is behaviours at an individual per session level that defines what those effects will be.

The responsible gaming features on the new terminals introduced by ALC and NSGC are designed to assist players in managing the amount of time and money spent during play, in particular for those who are playing at "excessive levels", while having a minimal impact for those engaged in non-problem or responsible play.

Therefore, to assess the role of the features in mediating player behaviours relative to the vast array of other features that can potentially influence players' interactions and decisions, it was necessary to gather information that accurately reflects how players respond during a specific play session.

The outcome of regular video lottery play is the sum of how players interact with the games each time they play.

This information provides insight not only in evaluating response towards the new terminals with the RGFs, but also in informing on-going responsible gaming initiatives by understanding how players in general interact with the machines.

Analysis Rationale

Gathering accurate information on a per session level for play is difficult. VLTs are not currently configured to track behaviour or outcomes on an individual session basis, instead providing only aggregate outcomes for a limited number of inputs (e.g., coin in/coin out, payout percentages).

Observational study, while considered more objective than players' self reports, introduces the confounding effects of potentially influencing player behaviours by watching or interfering with the activity. This is further exacerbated if methods are included which are either contrived or used to induce play, that may or may not have occurred without intervention. There are also limitations on the information that can be realistically gathered under a strictly observational scenario. Many players extend sessions of play well beyond parameters for reasonable observation (e.g., playing for more than two hours) and observers cannot be aware of the role of many factors, personal and machine induced, that may be influencing players' behaviours and decisions (e.g., access to financial resources, budget strategies, external constraints).

Given the information requirements of the current study, an observational approach could not provide the necessary data, therefore a self-report method was used.

As demonstrated in previous research conducted by Focal Research with video lottery players, including the pre-test and qualitative research undertaken in the current study, players' self reports of play behaviours can be highly accurate under certain conditions such as when:

- The questions are salient to how players behave;
- The information refers to specific events that are relevant and are session specific rather than non-specific or generalized;

- Such behaviours are in "memory" rather than based on priori theories about how players think they respond;
- Questions are non-threatening without any value-laden connotations which may bias or influence player reporting.

With this in mind, a series of questions was developed and tested for gathering information about a player's most recent play session (see Section 1 - Research Design).

Information gathered through player observation was insufficient and inefficient in addressing the detailed requirements of the study. Therefore, a pseudo-diary approach was adopted to enhance the accuracy of the player self reports.

Last Time Played

To enhance the accuracy of the self-reported behaviour, a pseudo-diary approach was adopted to gather specific information on a per session basis.

At each wave of the survey (Pre, Post 1, Post 2, Post 3), respondents provided detailed play information for the last time they had played video lottery.[2] In total, data for approximately four discrete play sessions were available for each respondent, at approximately 8 to 10 week intervals over the course of the study.

On an individual basis, information based on the most recent play session is not necessarily representative of a player's typical playing patterns, nor the accumulated results of their play. Many intervening factors can impact play during a particular session, such as available time/money and access to a preferred machine. However, at an aggregate level, data for last time played provides a highly accurate profile of how players in a particular group, on average, responded to the games. Thus, some players may have spent more or less than usual the last time they played, some will have won while others lost. Regardless, these differences balance out over total plays, providing reliable estimates of behaviour in general.

In the current study, the benefits of the analysis are twofold:

- The information is useful in providing contextual information for evaluating how the various play groups responded to the old and new terminals;
- The approach increases the sample size for play observations, thereby allowing for more meaningful comparisons of responses among the various types of players.

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[2] In the initial design for the study, respondents were required to provide detailed information for the last three times that they had played the machines. This approach was intended to increase the potential sample size of observations for conducting within-subject comparison of play on the old versus new terminals. During the pre-testing for the survey, it was evident that most players were unable to comply with accurate recall beyond the last time played and instead tended to provide generalized responses, best guesses, or were unable to answer. Thus, to improve the accuracy of the data, response was restricted to the most recent time played prior to the survey.

Sampling Frame

Sampling Frame for Last Time Played

	Pre	Post 1	Post 2	Post 3	Total Observations
Plays on Old Terminals	179	139	108	71	497
Plays on New Terminals	34	83	87	93	297
Total	213	222	195	164	794

In total, 222 respondents were reached and participated in all waves of the study. By Post 3 (February 2002), 58 individuals had not played in the last month and, thus, were excluded from the principal analysis examining changes occurring from the Pre to Post 3 survey. However, for the analysis at a per session level, all eligible observations for last time played during any of the four waves of the survey were included to maximize the sample sizes for comparison among the four player risk groups. Those play sessions for which the type of terminal used was unclear or for which respondents provided incomplete or ambiguous information, were excluded from the analysis to avoid any confounding effects on the results.

Total Observations and Respondents by Type of Terminal and Player Status

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	79	52	46	33	34	42	34	21
Total Observations	197	114	103	83	70	100	76	51

Limitations

It is important to note that comparison by total plays on old or new terminals is not appropriate. A similar number of observations (≈4) were included for all players regardless of how often the individual players takes part in video lottery. For example, Problem Players typically play more often (≈ 8 versus 4 times) and for longer periods of time (120 minutes versus 60 minutes) than the lower risk players and, consequently, will account for the majority of the times VL games are played despite the fact that they only represent a minority of the players on the sample (18%). Simply weighting the observations to reflect the proportion of plays accounted for by each group is also inappropriate, due to the small sample sizes for those players exerting the strongest influence on the results.

Therefore, the results are examined and compared based on player status within plays on each type of terminal. It should be kept in mind that these are the only groups which are mutually exclusive. Players could have played on any combination of old or new terminals for the last time played over the four waves of the study. Therefore, in conducting tests of significance for changes in responses between the old and new terminals, it was necessary to use dependent paired t-tests to ensure that results differed for those who played on both types of terminals, as well as for between-group differences.

Notwithstanding the limitations in how the data can be used, the findings provide detailed information about how the study participants played the games on both types of terminals, that otherwise would not be available.

Presentation of Results

The results are organized and presented under four primary headings:

- Starting play
    - Reasons for playing (impulse versus planned play)
    - Playing alone versus with others
    - Amount of money put into machine at start of play
    - Number of times inserting more money
    - Perceptions of number of times more money was put into machines
- During play
    - Behaviours interrupting play
    - Number of times players temporarily interrupt play
    - Letting credits go down to zero
    - Cashing out and continuing to play
    - Taking a break
    - Switching machines
    - Length of time before first interrupting play
    - Longest period of continuous play
    - Use of bill acceptors
    - Exposure to pop-up messages & mandatory cash out
    - Number of different games played
    - Types of games played
- Stopping play
    - Reasons for stopping play
- Game outcomes
    - Length of session
    - Session length being longer, shorter or same as intended
    - Frequency of losing track of time during play
    - Win, breakeven or loss at end of session
    - Amount spent out-of-pocket
    - Amount won
    - Expenditure being more, less or same as intended
    - Frequency of losing track of money spent during play

Starting Play

Reasons for Playing

The inclusion of new games on the new or modified terminals was expected to arouse curiousity and initially stimulate higher play levels as players became familiar with the games. The extent to which this novelty effect would influence playing patterns and whether or not the appeal of the new games would lead players to seek out the activity was uncertain. It was also hypothesized that the introduction of the new games may encourage greater "social play" either in the short term, as players became more familiar with how the games work, or in the long term, due to new game design supporting play with others.

The higher the risk for problem gambling, the greater the likelihood the individual had specifically gone to the location to play the machines. There were no notable differences observed in impulse versus planned play between the old versus new terminals.

For the last time played in each wave of the study, players were questioned as to their reasons for going to the location and whether they played alone or with others either on the same machines or on a nearby/adjacent terminal.

Table 3.1 – Starting Play (Reasons for Going to Location)

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Reasons for going to location (licensed establishment):								
	***				***			
Specifically to play VL	38%	51%	63%	78%	30%	52%	70%	72%
For other reasons	62%	49%	37%	22%	70%	48%	30%	28%
Presence of others while playing:								
	***				*			
Alone	56%	54%	63%	65%	69%	49%	57%	69%
With friend(s)/family on same machine	26%	21%	15%	29%	26%	34%	29%	20%
With friend(s)/family playing nearby	18%	25%	22%	6%	6%	17%	14%	12%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Impulse Versus Planned Play

Whether playing on the standard terminals or the new machines, there was no appreciable difference in the likelihood of planned versus impulse play. In general, the percentage of those being at a licensed establishment to specifically play video lottery is strongly related to risk for problem gambling. In the vast majority (≈72% to 78%) of plays by Problem Gamblers, VLT play was their primary reason for going to the location, as compared to only 30% to 38% of No Risk Players. Lower risk players were more inclined to have been in the location for another reason such as socializing with friends/family or to eat/drink, and ended up playing the machines on impulse or as part of their other activities.

Thus, the findings suggest that for those already involved in regular VL play, the presence of the new terminals was not associated with any increases in planned play or greater impulsiveness. **Either the individual had gone specifically to play or not and the type of machine selected was largely independent of the decision to play.**

Playing Alone Versus With Others

While video lottery tends to be primarily a solitary activity, it is noteworthy that play with friends and/or family, either on the same machine or nearby, is common practice and occurs in one-third to almost one-half of times played by those in any risk segment.

In at least one out of every three VL sessions, players reported the presence of friends or family members playing on the same or a nearby machine.

For plays on the old terminals, there were significant differences observed in social play among the four player categories (p<.01). These differences were less pronounced on the new terminals but still reached statistically significant levels at the 90% confidence level (p<.10).

For plays on both types of terminals, Problem Players were most likely to be playing without the involvement of other friends and/or family members (Old: 65%, New: 69%). On the "old" standard version VLTs, social play by Problem Gamblers tended to be skewed towards playing with others on the same machine (29%) as opposed to on a nearby or adjacent terminal (6%). In fact, Problem Players were either just as likely as other players and even more so than Moderate Risk Players (29% versus 15%) to be involved in joint or social play on the same machine. However, Problem Players were least inclined to report the presence of other friends and/or family members playing on a separate or nearby machine. It may be that joint play on the same machine is a way for Problem Players to extend their playing time/money, or legitimize their involvement in the activity.

On the new terminals, plays by those at either end of the risk continuum were less likely to have included other people (No Risk: 32%, Problem Play: 32%) than Low Risk (51%) or, to a lesser extent, Moderate Risk Players (43%).

To a certain extent, the findings are indicative of different involvement levels in the activity. For example, No Risk Players do not play as often nor at as intensive levels as the other regular players. Therefore, video lottery is a more frequent and/or engaging entertainment option for the Low and Moderate Risk Players that, not surprisingly, also has a greater social component.

While the proportion of sessions involving play with others was similar on both the old and new terminals, social play on the new terminals was twice as likely to have occurred on the same machine rather than on a nearby or adjacent terminal.

It is noteworthy, that regardless of player status, for those sessions on the new terminals that did include friends or family members, there was a greater tendency for this involvement to have occurred on the same machine. Among all the player segments, joint play with others was a least twice as high as the percent playing on a nearby machine. This contrasts with results for the old terminals which, with the exception of Problem Players (same: 29%, nearby: 6%), tended to be evenly split between others playing either on the same (15% to 26%) or a nearby machine (18% to 25%). It may be that as players gain greater familiarity with the new games and terminals there will be a shift towards the more individual play observed on the old terminals. Alternatively, the new games may be more conducive to "shared" or "dual" play and this trend for more social VL gaming may develop and persist. This can only be confirmed with continued tracking.

Amounts of Money Used To Start Play

The bill acceptor and playing with cash amounts displayed instead of credits are two modifications that are expected to influence play behaviours, including the initiation of play on the machines. Therefore, based on the last play session, players were asked to report the amount of money first put into the machines to start play, how many times additional funds were inserted, and whether this behaviour was perceived to have occurred more, less or the same as usual.

Table 3.2 – Starting Play (Amount of Money Used)

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Amount of money put into machine at start of play:								
	**				NS			
$1.00-$5.00	53%	36%	42%	43%	33%	21%	14%	14%
$6.00-$10.00	24%	29%	21%	17%	20%	18%	22%	14%
$11.00-$20.00	19%	33%	30%	36%	43%	56%	55%	63%
$21.00+	5%	2%	7%	4%	4%	5%	8%	10%
	***				***			
Average amount ($)	$9.62	$11.68	$12.08	$11.93	$13.59	$19.04	$16.55	$18.45
Median amount ($)	$5.00	$10.00	$10.00	$10.00	$10.00	$20.00	$20.00	$20.00

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Table 3.2 – Starting Play (Amount of Money Used) - CONTINUED

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Number of times put more money in:								
	***				***			
Zero	32%	25%	16%	7%	36%	22%	20%	10%
Once	23%	27%	12%	6%	20%	17%	14%	2%
Twice	13%	15%	15%	7%	4%	14%	16%	14%
Three	9%	12%	18%	7%	9%	13%	13%	6%
Four	9%	7%	6%	14%	10%	11%	13%	4%
Five +	14%	14%	34%	58%	22%	23%	24%	65%
	***				***			
Average # of times	2.4	2.4	5.7	9.1	2.7	3.0	3.1	7.0
Median # of times	1.0	1.0	3.0	5.0	1.0	2.0	2.5	6.0
Player perception of number of times put money into machines:								
	***				***			
MORE than usual	6%	6%	16%	16%	9%	11%	21%	24%
Same	85%	78%	64%	57%	80%	78%	54%	59%
Less than usual	9%	16%	20%	28%	11%	11%	25%	18%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

The median amount of money first put in to start play tends to be twice as high on the new terminals than on the old, regardless of player status, likely in response to the bill acceptor.

Amounts Put in at Start of Play

Among the player segments, there are few differences in the amount of money players first put into the machines to initiate play. The only exception is noted for No Risk Players, for whom the median amount used to start play is half that reported in any of the other three player segments (Old: $5.00 versus $10.00, New: $10.00 versus $20.00). **For plays on the new terminals, the amounts inserted to start play are significantly higher among all of the player segments.** The results are likely being influenced by the presence of the bill acceptor on the new terminals.

Number of Times Inserting More Money

On the old terminals, frequency of inserting more money into the machines during play increased with risk for problem gambling, ranging on average from 2.4 times for lower risk players to 5.7 times for Moderate Risk and 9.1 times for Problem Players.

For plays on the new terminals, only Problem Players continued to differ significantly in the number of times they put additional funds into the machine, on average reporting rates over twice as high as the other types of players (7 times versus ≈3 times).

The only notable difference in frequency of adding money related to player status or type of terminal was observed for those at Moderate Risk. Moderate Risk Players reported putting in additional funds less often on the new versus old terminals (3.0 versus 5.7 times).

Comparatively, the only notable difference between results for the old and new terminals was observed for plays by Moderate Risk Players. Those at "Moderate Risk" for development of problem gambling reported putting additional money into the machines fewer times, on average, during plays on the new terminals (3.1 times) than during plays on the old terminals (5.7 times). There were no differences related to the new terminals observed among any of the other player groups. Thus, while play on the new terminals is associated with the use of higher amounts of money to initiate play for Moderate Risk Players, this increase appears to be offset within this risk group by their putting additional money into the machine less often.

Perceptions of Number of Times More Money Was Put Into Machines

Players in all segments were slightly more inclined to believe that the number of times they inserted money during play was higher than usual when playing the new terminals. While the differences do not reach a statistically significant threshold, given the consistency of the response the finding may have practical significance if such perceptions persist over time.

There are no significant differences in players' perceptions about the frequency of putting in more money during plays on the old versus new terminals.

Lower risk players are significantly more likely than those in the two higher risk groups to indicate their behaviour pattern was typical on this measure for plays on either the old or new terminals (≈78% to 85%). In contrast, only 54% to 64% of plays by those in the high risk groups were considered to represent typical behaviour. This is not surprising given that as risk increases, so too does the frequency and duration of play. Consequently, the results based on last time played can be expected to produce greater variance from the norm within these groups. In keeping with this tendency, both Moderate Risk and Problem Players who indicated that the number of times they put in more money was atypical the last time they played, were almost evenly divided between saying it was more (16% to 24%) or less (18% to 28%) often than usual.

During Play

Behaviours Interrupting Play

There are a number of behaviours that can influence exposure to some of the responsible gaming features on the new terminals. In particular, the pop-up messages informing players of how long they have been playing and prompting for whether or not the player wishes to continue play are scheduled to appear at pre-set intervals after 60, 90, 120, 145 and 150 minutes of continuous play.

Therefore, any behaviour such as cashing out or running credits down to zero will reset the internal clock for the pop-up reminders. In order to identify the potential effects of such behaviours, all players were asked to specify how many times they had engaged in the following activities during the last time played:

- cashing out
- letting credits go down to zero before putting in more money
- taking a break to use location facilities, amenities or for other reasons
- switching machines

In addition, all players provided time estimates for how long after starting play they had first engaged in any of the above behaviours and for the longest period of continuous play during the last VL session.

Table 3.3 - Behaviour Interrupting Play

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
% of players engaging in behaviours that temporarily interrupt play:								
	NS				NS			
Cashing out	57%	53%	68%	52%	66%	64%	57%	65%
	***				***			
Letting credits go down to zero	75%	87%	76%	94%	73%	81%	90%	92%
	**				NS			
Taking a break	25%	34%	33%	42%	36%	35%	36%	47%
	***				NS			
Switching machines	8%	16%	16%	28%	11%	18%	18%	18%
Average number of times engaging in behaviours while playing:								
	NS				NS			
Cashing out	1.0	0.8	1.3	1.2	1.2	1.5	1.0	1.7
	***				***			
Letting credits go down to zero	1.9	2.0	3.6	7.7	1.9	2.2	2.6	4.5
	***				NS			
Taking a break	0.5	0.8	0.7	1.2	0.7	0.8	0.8	1.2
	***				NS			
Switching machines	0.1	0.3	0.3	0.6	0.1	0.3	0.3	0.3

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

On the old terminals, the number of times a play session was temporarily interrupted increased with risk for problem gambling, ranging from a low of 3.5 times for No Risk Players to 9.7 times for Problem Gamblers.

Table 3.3 - Behaviour Interrupting Play - CONTINUED

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Average number of times for all behaviours combined:								
	***				**			
Average # of times	3.6	3.5	6.9	9.7	4.2	4.7	4.8	7.4
Median # of times	2.0	3.0	5.0	6.0	2.0	4.0	3.0	6.0

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

For plays on the new terminals, only Problem Gamblers report significantly higher rates of interrupting play (≈7 times) as compared to ≈4 to 5 times for non-problem players.

Number of Times Players Temporarily Interrupt Play

Similar to results for the number of times players put more money into the machines, the number of times a play session is temporarily interrupted increases with risk for problem gambling.

On the old terminals, plays by those in the lower risk segments were typically interrupted approximately 3.5 times, ranging to 6.9 times for Moderate Risk and 9.7 times for Problem Players.

Again for plays on the new terminals, Moderate Risk Players interrupted play less often than was the case for plays on the old terminals (Old: 6.9 times versus New: 4.8 times). As a result, there were no significant differences observed for plays on the new terminals among the three non-problem player groups, with four to five interruptions reported per play session. Problem Players continued to report significantly higher interruption rates (7.4 times/session).

Running credits down to zero is typical behaviour for all players. However, higher frequency of this practice in a given play session distinguishes Problem from non-problem players, especially on the new terminals.

Letting Credits Go Down to Zero

Letting credits go down to zero before putting in more money is the most common behaviour interrupting the play process, with the vast majority of players in all segments noting that this had occurred for plays on either type of terminal (≈73% to 94%).

In all cases, Problem Players were significantly more likely to have run credits down to zero. **In fact, for plays on the new terminals, this is the only behaviour which differed significantly among the four player groups, thus accounting for the majority of the difference observed at a total level for interruption behaviour.**

Cashing Out and Continuing to Play

The term "cashing out" in most cases implies that there has been a win or at least a sufficient accumulation of credits/cash to warrant redemption of the amount, even though the play session is not concluded. There are no notable differences among the player segments or by type of terminal played in either the tendency to cash out during play or the frequency of such behaviour during play.

Therefore, despite the longer play periods and greater expenditure of the high risk player groups, the percent who cashed out during play (≈52% to 66%) and the number of times cashed out (≈1.0 to 1.7 times) was similar within all segments.

Regardless of play status or type of terminal, there are no significant differences observed in the numbers of times players cash out.

Taking a Break

Taking a short break to use amenities, get additional money, or do something else occurred in less than half of all play sessions (25% to 47%).

For plays on the old terminals, No Risk Players were significantly less likely to have reported any such break in play than Problem Players (25% versus 42%), but there were no significant differences observed among the player segments for plays on the new terminals (36% to 47%).

Switching Machines

Switching to another machine during a single play session was reported in a minority of the cases by players in all segments. On the old terminals, the likelihood of switching increased with risk for problem gambling, ranging from a low of 8% in play sessions by No Risk Players to 28% for Problem Players. There were no significant differences observed in switching behaviour among any of the player groups on the new terminals.

Table 3.4 - Length of Time Spent Playing Before Stopping or Interrupting Play

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Length of time spent playing before stopping and/or interrupting play:								
	NS				NS			
< 10 minutes	15%	13%	17%	20%	10%	8%	13%	4%
10-14 minutes	20%	22%	18%	22%	17%	15%	20%	26%
15-19 minutes	17%	21%	18%	19%	27%	14%	15%	22%
20-29 minutes	17%	20%	11%	10%	21%	22%	23%	12%
30-59 minutes	20%	18%	22%	19%	19%	28%	16%	24%
60+ minutes	11%	5%	15%	10%	6%	12%	13%	14%
	NS				NS			
Average # of minutes	24.7	27.1	31.5	23.7	24.3	29.4	24.9	31.1
Median # of minutes	15	15	15	15	15	20	20	15

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Whether playing on the old or new terminals, all players, on average, tend to play for ≈25 to 30 minutes before play is first interrupted.

Table 3.4 - Length of Time Spent Playing Before Stopping or Interrupting Play
CONTINUED

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Longest period of time for continuous play:								
	**				***			
< 30 minutes	54%	50%	39%	39%	46%	32%	38%	18%
30-59 minutes	29%	34%	33%	36%	34%	39%	28%	26%
60-89 minutes	12%	7%	14%	12%	14%	11%	17%	35%
90-119 minutes	3%	2%	4%	8%	1%	7%	12%	4%
120+ minutes	2%	6%	11%	5%	4%	11%	5%	18%
	**				***			
Average # of minutes	31.7	38.0	46.8	40.7	35.8	49.9	44.5	63.6
Median # of minutes	25	25	30	30	30	40	30	60

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

On the old terminals, those at any level of risk for problem play (Low, Moderate and Problem) on average reported similar periods for longest continued play of ≈40 to 45 minutes.

Length of Time Before First Interrupting or Temporarily Stopping Play

There were no significant differences among any of the player groups in how long they played before first engaging in any behaviours that would temporarily interrupt play or, in the case of the new terminals, would reset the internal clock for the pop-up reminders.

On average, players tended to have played for 25 to 30 minutes each session before first running out of credits or cashing out, on either the old or new terminals.

Longest Period of Continuous Play

In terms of the longest period of continuous play, there were differences observed among the players segments and by type of terminal.

The longest period of play on the new terminals was significantly higher for Problem Players who, in over half of all sessions, played for 60 minutes or more without cashing out or running the credits down to zero.

No Risk Players reported the shortest periods of continuous play, on average having played for a maximum time of approximately 30 to 35 minutes on either the old or new terminals before play was interrupted or terminated.

There were no significant differences among the other types of players on the old terminals. On average, those players at any level of risk for problem play estimated that their longest period of continuous play lasted from approximately 40 to 45 minutes. Compared to the findings for the old terminals, both Low Risk Players (Old: 38.0 minutes versus New: 49.9 minutes) and Problem Players (Old: 40.7 minutes versus New: 63.6 minutes) were playing for longer time periods on the new machines. Consequently, on the new terminals the longest period of continuous play increased with risk for problem gambling. In fact, in over half (57%) of their play sessions on the new terminals, Problem Players reported continuous play periods of 60 minutes or more versus only 25% of plays by Problem Gamblers on the old terminals.

Exposure to New Terminal Features

The presence of the bill acceptor was used as a proxy to indicate whether or not the machine played was one of the older model terminals (no bill acceptor) or one of the new terminals with RGFs (including bill acceptors). If the last play occurred on a new terminal, players were asked whether or not they had used only the bill acceptor during the session, used coins only or used both bills and coins.

Players were also questioned to determine if they saw any of the three pop-up messages, warning message, or mandatory cash out during the last play.

Table 3.5 - Exposure to Features on New Terminals

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Use of bill acceptor, coins only, both								
	--				***			
Bill acceptor only	--	--	--	--	46%	47%	37%	57%
Coins only	--	--	--	--	24%	11%	17%	2%
Both bills and coins	--	--	--	--	30%	42%	46%	41%
Saw any messages:								
	--				***			
Saw any messages	--	--	--	--	16%	21%	24%	51%
	--				***			
60 minute pop-up	--	--	--	--	14%	21%	24%	51%
	--				***			
90 minute pop-up	--	--	--	--	1%	15%	10%	16%
	--				***			
120 minute pop-up	--	--	--	--	1%	8%	4%	12%
	--				***			
145 minute mandatory cash out warning	--	--	--	--	--	7%	1%	6%
	--				***			
150 minute mandatory cash out	--	--	--	--	--	6%	1%	6%

NS = No significant difference; * = $p<0.10$; ** = $p<0.05$; *** = $p<0.01$

Use of Bill Acceptors

The bill acceptor was used during the majority of times played by those in all player segments (76%+), especially Problem Players (98%).

Reported use of the bill acceptor during the specific play sessions was high in all segments (76%+), but tended to increase with risk for problem gambling (No Risk: 76%, Low Risk: 89%, Moderate Risk: 83%, Problem: 98%).

In more than half of all plays by Problem Gamblers (57%), the bill acceptor was exclusively used, with coins and bills jointly used in 41% of sessions. This means that only 2% of plays by Problem Gamblers involved exclusive use of coins as compared to 24% of plays by those in the No Risk segment.

Exposure to Pop-Up Messages and Mandatory Cash Out

Player estimates of longest period of continuous play are highly consistent with reported exposure to the pop-up messages at the 60-minute, 90-minute and 120-minute marks.[3]

Based on the last time played, exposure to any of the pop-up messages increased dramatically with risk for problem play. **In only 16% of sessions, No Risk Players reported seeing any on-screen message indicating how long they had been playing as compared to approximately half (51%) of all play sessions by Problem Gamblers.** Not surprisingly, the majority of this exposure was accounted for by the 60-minute pop-up reminder.

In half of all play sessions on the new terminals, Problem Players reported having seen the 60-minute pop-up reminder. This rate of exposure was twice as high for Problem Players than for those in the non-problem segments, suggesting that the message was targeting those players at greater risk.

By the 90-minute mark for continuous play, there were no longer any significant differences in exposure noted among those at any level of risk for problem play (≈ 18% to 22% of plays). Only No Risk Players were significantly less likely to have seen the 90-minute message (1%).

This finding holds true for exposure to all of the remaining messages, including the 5-minute warning at 145 minutes and mandatory cash out at 150 minutes.

In general, the 120-minute pop-up message was seen in approximately 4% to 12% of all plays by those at any level of risk for problem gambling. This rate of exposure dropped by approximately half (≈ 6%) for the warning at 145 minutes and mandatory cash out at 150 minutes of continuous play.

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[3] In the survey, the questions regarding exposure to the pop-up messages (QC4c, QC4d) were asked prior to obtaining estimates of how often players engaged in behaviours that would interrupt play (QC7a) and longest periods of continuous play (QC7c). There were a number of complex intervening questions between the measures that would make it difficult for players to hold previous answers in mind and instead encouraged reliance on actual play behaviours in generating their answers (See Appendix A for Survey).

Thus, with the exception of the 60-minute message, it appears that exposure to the remaining features, which are triggered after continuous play of 90 minutes or more, are not necessarily targeting Problem Gamblers. Instead, the messages are equally likely to be seen during a particular session by players in all segments who, for some reason, have not cashed out or interrupted play over an extended period.

For all pop-up reminders after 60 minutes and the mandatory cash out, there were no significant differences in per session exposure rates among any of the player segments with the exception of No Risk Players, who were least likely to report seeing any of the features beyond the 60-minute message.

This type of continuous play may be more likely to occur in cases when players are winning rather than losing. For example, smaller intermittent wins generally are not cashed out and are used to extend play.[4] When winning, players are less likely to interrupt play (e.g., do not have to stop play to get more money, are less inclined to switch to another machine, are less likely to desire a break). Continuous play also occurs when players are chasing losses, especially in anticipation of achieving a big win on a "machine that is due to pay out". Players in this scenario often leave a machine with a "few credits" when having to get more money, go for bathroom breaks or for other interruptions, in order to "hold it" for continued use.[5]

However, despite these practices, it will be recalled that Problem Players are more likely to interrupt continuous play primarily by running credits down to zero before putting in more money. This behaviour will not only reset the internal timing mechanism for the pop-up reminders, but also contributes to the greater losses reported by Problem Players. It also reduces the likelihood of exposure to the later machine interventions, even though Problem Gamblers typically play over protracted periods of time.

On a per session basis, due to self-initiated interruptions in play, especially running credits down to zero, the majority of those at greatest risk for problem VL gambling are unlikely to be exposed to any RGF messages scheduled to intervene beyond 60 minutes of continuous play.

Thus, on a per session basis, the majority of those at greatest risk for problem VL gambling are unlikely to be exposed to those features scheduled to intervene after continuous play of 90 minutes or longer.

Games Played

In addition to responsible gaming features, the new terminals also included access to a wider menu of new and previously launched games. The novelty effect of the new games was expected to influence players' trial, especially those seeking greater variety in their play experience. There was also an opportunity to assess differences in the appeal of specific new games for those in the four player segments. Therefore, for each play session on either the old or new terminals, respondents were asked to specify all games played.

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[4] 1997/98 NS Regular VL Players Survey, Section 3 - Problem Gambler Analysis Reinvestment Behaviours p. 57, Chasing Losses pp. 54-56 and 2000 Regular VL Players Follow-Up Study, NSDOH Addictions Services, Focal Research; pp. 39-40.

[5] Qualitative Research, NSDOH, Focal Research; June 1999 - Concept Testing with Infrequent, Frequent and Problem Regular VL Gamblers.

Table 3.6 - Types of Games Played

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Number of different games played:								
	***				NS			
One	83%	71%	76%	58%	41%	39%	46%	41%
Two	16%	25%	24%	36%	31%	29%	26%	31%
Three	1%	4%	--	6%	21%	22%	22%	16%
Four	--	1%	--	--	6%	10%	5%	12%
	***				NS			
Average # of games played	1.2	1.3	1.2	1.5	1.9	2.0	1.9	2.0
Median # of games played	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
Games Played:								
Swinging Bells	68%	66%	68%	66%	16%	11%	10%	8%
Wild Arctic	<1%	4%	5%	1%	51%	59%	62%	63%
Aces Fever	30%	21%	24%	29%	6%	--	4%	--
Royal Spins	1%	2%	4%	1%	33%	33%	29%	31%
Magic Merlin	--	4%	--	1%	**19%**	34%	36%	33%
Joker Poker	11%	14%	12%	20%	4%	1%	5%	6%
Frost & Fire	--	1%	--	--	20%	24%	**9%**	24%
Treasure Chest	--	--	--	1%	**17%**	12%	13%	**4%**
Other (1% or less)	**7%**	**23%**	**12%**	**28%**	26%	**29%**	**18%**	30%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

▨ - indicates significant differences among player status segments at the 90%+ confidence level (p<0.10)

On the old terminals, only Problem Players tended to report greater variety in the number of different games played each session. All players tended to have played more different games on the new terminals.

Number of Different Games Played

On average, respondents were more likely to have played only one game during each play session on the old terminals, versus two games for plays on the new terminals. There were no differences among any of the player categories for the new terminals, however, Problem Players were more inclined to have played two or more different games on the old style of terminal than any of the other types of players (42% versus ≈17% to 29%).

Type of Games Played

Undoubtedly, Swinging Bells was the most popular choice among all players on the old terminals (≈66% to 68%) followed by Aces Fever (≈21% to 30%) and Joker Poker (≈11% to 20%).

On the new terminals, play tended to be heavily skewed towards the new games rather than the new versions of the old favorites. In fact, only 8% to 16% of plays on the new terminals include Swinging Bells with 6% or less mentioning Aces Fever or Joker Poker.

On the new terminals, the new games were heavily preferred over the "old" favorites with only about one out of ten plays involving the new versions of the old offerings.

In contrast, in more than half of the sessions on the new terminals, Wild Arctic was played (51% to 63%). About one-third of plays involved Royal Spins (29% to 31%) and/or Magic Merlin (33% to 36%), although No Risk Players were significantly less likely to note play of Magic Merlin (19%). Frost and Fire was reported in about one-quarter of plays (≈20% to 24%) by any type of player except those at Moderate Risk (9%).

Stopping Play

To assess any differences in factors influencing decisions to end play, all respondents were asked to indicate the reasons why they had stopped playing video lottery for the last time played in each wave of the study.

Table 3.7 - Outcome (Reasons for Stopping Play)

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Reasons for stopping play:								
Ran out of time (external constraints)	29%	25%	31%	22%	26%	26%	**33%**	**16%**
Spent budget amount	**25%**	**29%**	**18%**	**12%**	**10%**	**20%**	13%	16%
Had a big win	20%	18%	15%	**6%**	**24%**	**24%**	**10%**	**10%**
Ran out of money	**4%**	**6%**	**16%**	**41%**	**4%**	**5%**	**16%**	**39%**
Lost interest/got bored	9%	10%	9%	5%	16%	12%	13%	10%
Losing too much	4%	5%	4%	7%	9%	3%	7%	6%
Location closing	2%	4%	5%	5%	6%	5%	8%	6%
Wanted to do other things at location (e.g., eat, drink, socialize)	**11%**	4%	3%	1%	6%	3%	1%	4%
Other	3%	5%	7%	1%	6%	6%	--	--

▨	- indicates significant differences among player status segments at the 90%+ confidence level (p<0.10)

Table 3.6 - Types of Games Played

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Number of different games played:								
	***				NS			
One	83%	71%	76%	58%	41%	39%	46%	41%
Two	16%	25%	24%	36%	31%	29%	26%	31%
Three	1%	4%	--	6%	21%	22%	22%	16%
Four	--	1%	--	--	6%	10%	5%	12%
	***				NS			
Average # of games played	1.2	1.3	1.2	1.5	1.9	2.0	1.9	2.0
Median # of games played	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
Games Played:								
Swinging Bells	68%	66%	68%	66%	16%	11%	10%	8%
Wild Arctic	<1%	4%	5%	1%	51%	59%	62%	63%
Aces Fever	30%	21%	24%	29%	6%	--	4%	--
Royal Spins	1%	2%	4%	1%	33%	33%	29%	31%
Magic Merlin	-	4%	--	1%	**19%**	34%	36%	33%
Joker Poker	11%	14%	12%	20%	4%	1%	5%	6%
Frost & Fire	--	1%	--	--	20%	24%	**9%**	24%
Treasure Chest	--	--	--	1%	**17%**	12%	13%	**4%**
Other (1% or less)	**7%**	**23%**	**12%**	**28%**	26%	**29%**	**18%**	30%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

☐ - indicates significant differences among player status segments at the 90%+ confidence level (p<0.10)

On the old terminals, only Problem Players tended to report greater variety in the number of different games played each session. All players tended to have played more different games on the new terminals.

Number of Different Games Played

On average, respondents were more likely to have played only one game during each play session on the old terminals, versus two games for plays on the new terminals. There were no differences among any of the player categories for the new terminals, however, Problem Players were more inclined to have played two or more different games on the old style of terminal than any of the other types of players (42% versus ≈17% to 29%).

Type of Games Played

Undoubtedly, Swinging Bells was the most popular choice among all players on the old terminals (≈66% to 68%) followed by Aces Fever (≈21% to 30%) and Joker Poker (≈11% to 20%).

On the new terminals, the new games were heavily preferred over the "old" favorites with only about one out of ten plays involving the new versions of the old offerings.

On the new terminals, play tended to be heavily skewed towards the new games rather than the new versions of the old favorites. In fact, only 8% to 16% of plays on the new terminals include Swinging Bells with 6% or less mentioning Aces Fever or Joker Poker.

In contrast, in more than half of the sessions on the new terminals, Wild Arctic was played (51% to 63%). About one-third of plays involved Royal Spins (29% to 31%) and/or Magic Merlin (33% to 36%), although No Risk Players were significantly less likely to note play of Magic Merlin (19%). Frost and Fire was reported in about one-quarter of plays (≈20% to 24%) by any type of player except those at Moderate Risk (9%).

Stopping Play

To assess any differences in factors influencing decisions to end play, all respondents were asked to indicate the reasons why they had stopped playing video lottery for the last time played in each wave of the study.

Table 3.7 - Outcome (Reasons for Stopping Play)

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Reasons for stopping play:								
Ran out of time (external constraints)	29%	25%	31%	22%	26%	26%	**33%**	**16%**
Spent budget amount	**25%**	**29%**	**18%**	**12%**	**10%**	**20%**	13%	16%
Had a big win	20%	18%	15%	**6%**	**24%**	**24%**	**10%**	**10%**
Ran out of money	**4%**	**6%**	**16%**	**41%**	**4%**	**5%**	**16%**	**39%**
Lost interest/got bored	9%	10%	9%	5%	16%	12%	13%	10%
Losing too much	4%	5%	4%	7%	9%	3%	7%	6%
Location closing	2%	4%	5%	5%	6%	5%	8%	6%
Wanted to do other things at location (e.g., eat, drink, socialize)	**11%**	4%	3%	1%	6%	3%	1%	4%
Other	3%	5%	7%	1%	6%	6%	--	--

- indicates significant differences among player status segments at the 90%+ confidence level (p<0.10)

Reasons For Stopping

For the most part, reasons for stopping during the last play session were similar whether the session occurred on an old or new VL terminal. However, there were distinct differences observed among the various player segments in the factors influencing the decision to end the play session.

Lower risk players were most likely to stop playing when they had spent their budgeted amount of time and/or money, or had experienced a big win.

Regardless of the type of terminal played, Problem Players were most likely to have stopped playing each time because they "*had run out of money*" (Old: 41%; New: 39%). Only 16% of plays by those at Moderate Risk were terminated due to having spent all available funds, with 6% or less of plays by No or Low Risk Players falling into this category. This is the most compelling distinction between plays by Problem versus non-problem players. **Therefore, identifying ways to limit access to funds for VL play may offer the greatest potential for Problem Players to exact control over the amount of time and money spent on the activity during play.**

In general, plays by lower risk players tended to end when they "*had run out of time*" (25% to 29%), "*spent their budgeted amount of money*" (≈20% to 29%), or "*had a big win*" (18% to 24%). Interestingly, having spent their budgeted amount of money was mentioned less often by No Risk Players on the new terminals (Old: 25% versus New: 10%) and was the only reason that differed significantly among the No Risk and Low Risk player groups (10% versus 20%).

For higher risk players, running out of time or money most often led to stopping play, with Problem Players citing lack of money as a mitigating factor significantly more often than any other player group.

It is noteworthy that on the old terminals, there were no significant differences among any of the player groups in the percentage of sessions terminated because of time constraints (22% to 31%). However, on the new terminals, Problem Players were less inclined than those at Moderate Risk to mention "running out of time" as a factor for stopping (16% versus 33%).

Consequently, play sessions by **Moderate Risk Players were twice as likely to have ended because they ran out of time (33%) rather than money (16%), whereas the opposite was true for Problem Players who ran out of money (39%) twice as often as time (16%).** Aside from this important distinction, there were few other significant differences among the two high-risk player groups in the reasons cited for stopping.

Problem Players were also least likely to have stopped playing due to a "big win" on either the old terminals (6% versus 15% to 20%) or the new terminals (10% versus ≈24%), although Moderate Risk Players also were significantly less likely to have noted the influence of a big win when playing on the new terminals (10%).

There were no notable differences among any of the player segments in the percent of plays terminated due to "*boredom* or *lack of interest*" (≈9% to 16%), "*desire to minimize losses*" (≈4% to 9%), or because the "*location was* closing" (≈2% to 8%).

On the old terminals, only No Risk Players stopped playing more often than the other players in order to socialize or do other things at the location.

Game Outcomes

To assess game outcomes for time and money spent on a per session level, all respondents were asked a series of questions specifically related to session length and expenditure for the last time played.

For the purpose of the current study, the two principal game outcomes of interest consisted of length of play (time) and amount spent (money).

- Session Length
  - Start and finish time for last play, length of session
  - Perceptions of length of play as being more, less or the same as intended
  - Frequency of losing track of time during play
- Expenditure
  - Whether session ended as a win (up any amount of money), breakeven, or loss situation
  - Amount spent out of pocket
  - Amount won
  - Perceptions of amount spent as being more, less or the same as intended
  - Frequency of losing track of money spent during play

Again, results were examined by the four CPGI risk segments for plays on the old and new terminals in order to gain insight as to the impact of the terminals for game outcomes by risk for problem gambling.

Session Length

Regardless or the type of terminal used, play sessions by Problem Players, on average, lasted twice as long as No Risk Players, with the majority (53% to 65%) playing for two hours or more the last time played.

Table 3.8 - Outcome (Session Length)

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Length of time spent playing:								
	***				***			
< 30 minutes	32%	25%	9%	10%	29%	14%	18%	2%
30-59 minutes	22%	26%	22%	14%	24%	18%	13%	10%
60-89 minutes	15%	13%	9%	14%	13%	18%	14%	8%
90-119 minutes	11%	10%	12%	8%	9%	13%	17%	16%
120-179 minutes	13%	12%	24%	17%	13%	13%	16%	22%
180+ minutes	7%	13%	24%	36%	13%	24%	21%	43%
	***				***			
Average length of time	62.0	78.6	115.7	150.1	73.7	106.2	103.2	170.8
Median length of time	45	45	90	120	50	85	90	120
Amount of time spent playing was more, less or about the same as intended:								
	***				***			
More	6%	11%	21%	32%	14%	9%	12%	35%
Same	84%	75%	64%	39%	70%	70%	49%	41%
Less	10%	14%	15%	29%	16%	21%	40%	24%
Frequency of losing track of time during last time played:								
	***				NS			
NEVER	90%	73%	60%	54%	87%	87%	78%	76%
< 50% of time played	4%	12%	10%	16%	10%	9%	9%	12%
50% + of time played	6%	15%	30%	30%	3%	4%	13%	12%
	***				**			
Average frequency of losing track of time	5%	13%	27%	30%	4%	5%	12%	12%
Median frequency of losing track of time	0	0	0	0	0	0	0	0

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Length of Time Spent Playing

Consistent with general monthly playing patterns, the average length of play at a per session level increases with risk for problem gambling. Plays by Problem Players, on average, lasted over twice as long (150.1 to 170.8 minutes) as plays by No Risk Players (62.0 to 73.7 minutes) regardless of the type of terminal used.

Although there was a general trend for sessions to last longer on the new terminals, session length was only statistically higher for plays by those at Low Risk.

The amount of time spent playing was considered to be typical in the majority of sessions by lower risk players on either type of terminal.

For plays on the old terminals, there was a corresponding increase in session length as risk for problem play went up. However, on the new terminals, due to a skew towards longer play sessions by Low Risk Players (Old: 78.6 minutes; New: 106.2 minutes), there were no significant differences observed in how long the session lasted, on average, for either of the middle risk groups (Low: 106.2 minutes; Moderate: 103.2 minutes).

It appears that, with the exception of Moderate Risk Players, play sessions were generally longer on the new terminals. However, the only statistically significant difference was observed for plays by the Low Risk segment. This relationship is most evident in comparing the median session lengths within each player segment by type of terminal played. (No Risk: 45 minutes versus 50 minutes; Low Risk: 45 minutes versus 85 minutes; Moderate Risk: 90 minutes for both terminals; Problem Players: 120 minutes for both types of terminals)

Conversely, Problem Players were least inclined to perceive session length as being the same as intended and were almost evenly split between considering length of play to have been longer or shorter than intended.

Perceptions of Time Spent Playing

For plays on the old terminals, players' perceptions that they were spending more time than intended also increased with risk for problem gambling. **Only a minority of plays (6% to 11%) by those in the lower risk segments were considered to have extended beyond desired time frames, as compared to 21% of plays by Moderate Risk Players and about one-third (31%) of plays by Problem Gamblers.**

The majority of plays within all of the non-problem segments were considered to fall within typical session lengths on the old terminals, ranging from a high of 84% for the No Risk Players to a low of 64% for those at Moderate Risk. Comparatively, only 39% of plays by Problem Players were perceived to have fallen within typical play lengths, with similar proportions considered longer (32%) or shorter (29%) than intended. To a lesser extent, this was also true for plays by those at Moderate Risk (Longer: 21%; Shorter: 15%). Again, the results reflect the impact of higher frequency of play. Estimates based only on the most recent session can be expected to generate greater variance from the norm for those individuals who play more often each month.

With the exception of Problem Players, perceptions surrounding session length on the new terminals were more likely to be skewed towards feeling they had played for less time than expected, by Low Risk (21%) and especially Moderate Risk Players (40%).

Notwithstanding the role of frequency of play in influencing perceptions, there were notable differences in players' responses associated with the new terminals.

Only Problem Players were significantly more likely than those in the other segments to report that session length on the new terminals exceeded their intentions (35% versus 9% to 14%). In fact, perceptions of session length were highly similar for Problem Players on either the old or the new terminals.

In contrast to findings for the old terminals, there were no differences among the three non-problem segments in the percentage of plays considered to be

longer than desired (9% to 14%). Conversely, there was stronger evidence that time spent playing was more likely to be perceived as shorter than intended, especially within the Moderate Risk group (Old: 15%; New: 40%).

While lower session length on the new terminals for Moderate Risk Players did not reach a statistically significant difference, these players were strongly skewed towards believing they had played for less time than was intended.

Thus, it appears that for Moderate Risk Players, although lower average length of play on the new terminals did not reach a statistically significant difference at the 90% confidence level, such players were more likely to believe they were playing for shorter time periods on the new terminals.

Frequency of Losing Track of Time

Losing track of time during the play session is not a common characteristic of play for No Risk Players, regardless of the type of terminal used. In the vast majority of cases (87% to 90%), No Risk Players are never unaware of time spent playing and, on average, are only losing track of time about 5% of the time they played.

Those players at higher risk for problem gambling, on average, reported losing track of time twice as often during plays on the old terminals (40% to 46%) than on the new terminals (22% to 24%) and for longer periods during the session (12% versus 30% of the session).

On the old terminals, losing track of time increased with risk for problem gambling, occurring in 27% of play sessions by Low Risk Players, up to about 40% to 46% of sessions by Moderate and Problem Players, respectively. On average, the percent of times lower risk players lost track of how much time was being spent was less than half that of the higher risk groups (5% to 13% versus 27% to 30%).

In contrast, for plays on the new terminals, there were no significant differences among any of the player segments in their tendency to lose track of time during play. This is a significant improvement in awareness of time, particularly among the higher risk groups. **Problem Players (24% versus 46%) and Moderate Players (22% versus 40%) were only half as likely to have lost track of time on the new versus the old terminals.**

On average, the percent of times higher risk players lost track of time during each session was still significantly higher than within the lower risk groups (12% versus 5% of the time played). However, these rates were still less than half of those reported on the old terminals (12% versus ≈ 30%).

The findings suggest that improvements in awareness of time spent playing noted for all players over the course of the study (Section 2), are being influenced, to some extent, by play on the new terminals.

In Section 2 - Overview of General Playing Patterns, declines in frequency of losing track of time during play occurred within all of the various player groups. **The results of the per session analysis, based on last time played, suggests that improved awareness of time spent playing, especially for the high risk players, is most strongly associated with play on the new terminals.**

Expenditure

Table 3.9 - Game Outcomes (Expenditure)

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Game outcome:								
	***				***			
Won - up any amount of money	36%	31%	37%	8%	51%	42%	24%	14%
Broke even	11%	12%	8%	7%	4%	13%	4%	10%
Lost	52%	57%	55%	84%	44%	45%	72%	76%
Amount spent out of pocket last time played (excludes winnings):								
	***				***			
Zero	11%	12%	8%	7%	4%	13%	4%	10%
$1.00-$5.00	22%	11%	6%	4%	11%	2%	3%	--
$6.00-$10.00	17%	10%	7%	7%	14%	4%	7%	4%
$11.00-$20.00	24%	25%	18%	14%	31%	30%	21%	6%
$21.00-$50.00	20%	28%	34%	17%	19%	22%	28%	24%
$51.00-$100.00	4%	10%	20%	26%	14%	22%	34%	18%
$100.00+	2%	3%	7%	24%	6%	6%	4%	39%
	***				***			
Average amount spent	$21.49	$29.98	$45.43	$91.99	$36.40	$44.52	$47.46	$125.82
Median amount spent	$10.00	$20.00	$40.00	$60.00	$20.00	$25.00	$40.00	$80.00
Amount of money walked away with (in addition to amount put in)								
	***				***			
Zero	64%	69%	64%	92%	49%	58%	76%	86%
< $50.00	18%	10%	14%	2%	19%	10%	5%	2%
$51.00-$100.00	7%	8%	8%	2%	13%	8%	3%	2%
$100.00+	11%	13%	15%	4%	20%	24%	16%	10%
	NS				NS			
Average amount won	$128.39	$139.72	$163.89	$137.14	$136.50	$208.69	$238.33	$215.71
Median amount won	$55.00	$82.50	$80.00	$100.00	$77.50	$144.50	$200.00	$120.00
Amount of money spent last time was more, the same or less than intended:								
	***				***			
More	9%	19%	32%	51%	15%	13%	26%	52%
Same	86%	74%	64%	43%	78%	80%	64%	39%
Less	6%	7%	4%	6%	8%	7%	10%	9%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Table 3.9 - Game Outcomes (Expenditure) - CONTINUED

	OLD TERMINAL				NEW TERMINAL			
	No Risk	Low Risk	Moderate Risk	Problem Players	No Risk	Low Risk	Moderate Risk	Problem Players
Total Respondents	n=79	n=52	n=46	n=33	n=34	n=42	n=34	n=21
Total Observations	n=197	n=114	n=103	n=83	n=70	n=100	n=76	n=51
Frequency of losing track of amount of money spent:								
	***				**			
Never	98%	83%	73%	75%	93%	92%	88%	76%
< 50% of time played	2%	10%	12%	10%	6%	2%	6%	8%
50%+ of time played	---	7%	15%	15%	1%	6%	6%	16%
	***				***			
Average frequency of losing track of money	6%	6%	14%	15%	2%	4%	4%	15%
Median frequency of losing track of money	0	0	0	0	0	0	0	0

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

There were no differences in game outcomes among the non-problem players, with just over half of all sessions ending in a loss position, as compared to 84% of sessions culminating in losses for Problem Players.

Sessions by No Risk Players were more likely to end in a win position on the new versus the old terminals (51% versus 37%), whereas those at Moderate Risk were more likely to have ended play in a loss position (72% versus 55%).

Won, Lost, Broke Even

Reported game outcomes in terms of wins/losses differed strongly between plays on the two different types of terminals.

On the old terminals, there were no significant differences observed in responses among the three non-problem player groups. A slight majority of sessions ended in a loss position (52% to 57%), about one-third (31% to 37%) ended with players up any amount of money (won) and 8% to 11% of sessions were considered "break even". However, for Problem Players, a vastly different picture emerges with 84% of sessions having ended in a loss position and the remaining outcomes evenly split between breaking even (7%) or having won (8%).

On the new terminals, plays by No Risk Players were significantly more likely to have ended in a win position, in about half of all plays (51%). The percentage of sessions culminating in a win steadily declines as risk for problem play goes up.

On the old terminals, the amount spent during each play session increased with risk for problem play.

It appears that improvement in game outcomes for No Risk Players on the new terminals is countered by Moderate Risk Players reporting an increase in losses (Old: 55%; New: 72%). **In fact, the percentage of sessions ending in a loss on the new terminals was identical for both the Moderate and Problem Players (72% to 76%).**

Problem Players are the only group for which game outcomes were similar, regardless of which terminal was used.

Amount of Money Spent During Play

Similar to results for the amount of time spent playing, the amount of money spent each time is at least twice as high for Problem Players than for any other type of player, regardless of type of terminal used.

For plays on the old terminals, average expenditures by the non-problem player segments were significantly higher for those at Moderate Risk ($45.43) as compared to the No Risk ($21.49) or Low Risk Players ($29.98). **However, for plays on the new terminals, higher expenditure by the No Risk ($36.40) and Low Risk Players ($44.56) meant that all those in the non-problem segments, on average, were reporting similar amounts spent per session.**

There were no significant differences observed in average per play expenditure for either of the high risk player groups when playing on the old or new terminals.

Those in the lower risk segments reported higher expenditure for plays on the new versus old terminals. Consequently, there were no differences in average amount spent on the new terminals among any of the non-problem player segments.

Amount of Money Won During Play

While there were differences in the percentage of sessions ending in a win by both player status and type of terminal played, the actual amount of winnings players had at the end of the session were similar in all groups.

Regardless of the type of terminal played or player segment, those who were up any amount of money at the end of play, on average, reported winnings of approximately $100 to $200.[6]

Regardless or which terminal was played, in half of all sessions, Problem Players report they spent more money playing than intended, as compared to spending more time than desired in only about one-third of the sessions.

Perceptions of Amount of Money Spent

There is a high level of similarity between players' perceptions surrounding how much time or money they spent last time played.

On both types of terminals, the vast majority of No Risk (78% to 86%) and Low Risk Players (74% to 80%) spent at a desired level during their VL plays. The percentage of sessions that exceed intended expenditure increases with risk for problem gambling such that **in approximately half of all sessions, Problem Players reported spending more money than intended.**

It is noteworthy that the skew towards perceptions of spending less time playing on the new terminals is not accompanied by a corresponding impression of lower expenditure. In fact, while Moderate Risk Players felt that time spent playing on the new terminals was lower in 40% of sessions, a perception that the amount of money spent was lower than intended was only reported for 10% of plays.

Not surprisingly, given their lower involvement levels in the activity, No Risk Players never or rarely lost track of their VL expenditure.

---

[6] Sample sizes for winners in each segment were too small to detect statistically significant differences at the 90%+ confidence level.

There were no appreciable differences in players perceptions of their expenditure between plays on the old or new terminals. Unlike expectations for time, spending less than intended is a uniformly rare occurrence among all player groups, with the likelihood of exceeding desired expenditure increasing with risk for problem play.

There were no differences observed in player perceptions that they had spent less money than intended, with expenditure falling below players' expectations in 10% or fewer sessions.

Frequency of Losing Track of Money

Despite a tendency for players, especially those in high risk segments, to exceed desired expenditure levels, the majority of players in all segments indicate that they never lose track of how much money they are spending during play.

No Risk Players almost never lose track of what they are spending, regardless of whether the session occurred on an old (98%) or new terminal (93%). Both Low Risk (Old: 83%; New: 92%) and Moderate Risk Players (Old: 73%; New: 83%) reported higher rates of tracking expenditure for sessions on the new terminals.

Comparatively, Low Risk and especially Moderate Risk Players reported losing track of money less often when playing on the new terminals.

Problem Players reported losing track of money significantly more often than other players on the new terminals (24% versus 7% to 12%), on average losing track of money approximately 15% of the time played as compared to 2% to 4% for plays by the non-problem groups. However, these results were identical for Problem Players on either the old or new terminals.

Thus, while play on the new terminals was not associated with improved awareness by Problem Gamblers for the amount of money being spent, there were no negative side-effects, such as declines in awareness observed.

Although Problem Players are most likely to have lost track of expenditures during play, this happens in a minority of their play sessions (≈25%) and did not differ by type of terminal.

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ATLANTIC LOTTERY CORPORATION
VIDEO LOTTERY RESPONSIBLE GAMING FEATURE RESEARCH - FINAL REPORT

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IMPACT OF RGFS ON SESSION LENGTH AND EXPENDITURE

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Section 4

IMPACT OF RGFS ON SESSION LENGTH & EXPENDITURE

Excessive VL gambling, from a practical perspective, occurs as a function of spending time and/or money on the activity beyond desired and/or affordable levels. Thus, interventions that effectively assist players in managing these two critical aspects of play should contribute to reducing involvement in excessive VL gambling.

The responsible gaming features are primarily intended to influence play on a per session basis by alerting players to the amount of time (e.g., on-screen clock, pop-up screen messages at 60, 90, 120 minutes, 5-minute warning and mandatory cash out at 150 minutes) and/or money (e.g., display amounts in cash rather than credits) being spent each time an individual plays. Thus, the primary indicator in evaluating the effectiveness of the RGFs is the impact of the features on the length of time and amount of money spent playing the games.

Summary and Discussion

Overall, the results suggest that only the 60-minute pop-up message had an effect in terms of mitigating both session length and expenditure on the new terminals. Although the effects are not strong, exposure to this reminder did have a measurable and significant impact on player behaviours. For the most part, the effects were in the expected direction and appear to offset, to some extent, the influence of other characteristics of the new machines.

Those who saw the 60-minute pop-up message were more likely to have reduced their session length and, in the case of high risk players, to have had a slight effect on lowering expenditure. In contrast, those who were not exposed to the 60-minute pop-up reminder had increases in the length of time played and, for high risk players, a strong increase in expenditure was observed.

It should be considered that many factors affect length of play. Thus, it is reasonable to expect that the feature will only have an effect for those gamblers who are interested in reducing their VL gambling and played in such a manner that they would be exposed to the 60-minute RGF. For some players, such as those who do not set a budget or more frequently lose track of time, seeing the 60-minute message had a positive effect on reducing play, whereas lack of exposure to the RGF led to increases in time and in some cases expenditure.

For the later RGF messages at 90 minutes of continuous play and beyond, the results are more mixed. First, there were no significant main effects for the later messages or mandatory cash out in terms of reducing time or money spent playing. In the case of expenditure, exposure to any RGFs other than the 60-minute pop-up had no effect on the amounts spent by high risk players. Many of these players are already spending at maximum or upper limits and thus cannot spend at any higher levels.

For those at lower risk for problem gambling, an increase in expenditure was associated with seeing the 90-minute pop-up, the 120-minute pop-up or the 5-minute warning at 145 minutes. This should not be interpreted as exposure to the message leading to increased expenditure. Rather, it is the contingency of continuous play triggering these messages that is likely diminishing the effectiveness of the later pop-up message in influencing player behaviours. Those most likely to derive benefit from the intervention are not seeing it at a point where it can be expected to impact decisions to stop. Instead, players are exposed at a time when other, more compelling, factors or situations (e.g., chasing wins or losses) are motivating play and, thus, under these conditions, the message is simply insufficient to motivate stopping.

There was no significant impact on time or money spent detected for use of the on-screen clock or liking of amounts displayed in cash instead of credits. Both of these RGFs did not necessarily exert a direct influence on these play outcomes. Players tended to like the features, and neither feature engendered high negativity or antagonism. Additional analysis exploring the impact of the RGF on other behaviours showed that use of the on-screen clock was associated with small improvements in keeping track of time and playing within desired limits.[1] Over time, as players gain greater familiarity with the new terminals and various features, players may become more adept at using these RGFs to keep track of time and money during play.

While the RGFs had marginal influence on the amount of time and money spent, there were other aspects of the new terminals that did have significant implications for not only the effectiveness of the RGFs, but play behaviour in general. Obviously, the presence of new games, bill acceptors and graphic and technology improvements contribute to both appeal and player interaction with the games. Moreover, the increased rate of expenditure on the new terminals had a significant impact reducing session length, four times that noted for the 60-minute pop-up RGF.

To a lesser extent, the increased rate of expenditure also had implications for increases in the amount of money spent, especially among those who, due to their tendency to cash out or run credits down to zero, would be unlikely to be exposed to the majority of the RGFs.

---

[1] Refer to Section 5 for a discussion of results for the impact analysis regarding use of the on-screen clock and other changes in related measures.

In conclusion, there are other play behaviours and machine characteristics that had a significant effect for changes in session length and expenditure on the new terminals and, in some cases, influence or override the effectiveness of the RGFs. In order to identify opportunities to enhance the effectiveness of the RGFs it is important to understand and address the role of these other behaviours or characteristics in affecting the influence of the RGFs.

It should be kept in mind that the findings noted above are based on a specific sample of players who met the criteria for inclusion in the impact analysis (Switchers). These players represented approximately 34% of the study participants who voluntarily "switched play" from the old to new terminals with RGFs over the course of the introductory period. Results may differ to some extent for those who continued to play on the older model machines, especially when the "old" terminals are no longer available for play. Regardless, the results provide compelling evidence that the use of machine interventions can have a positive impact in influencing game outcomes. Moreover, insight is gained as to opportunities to enhance the potential efficacy of machine interventions as part of an integrated responsible gaming program.

Introduction

Section 4 examines the impact of the responsible gaming features (RGFs) and other machine characteristics (e.g., bill acceptors) on length of play (session length) and per session expenditures. Specifically, the analysis addresses the effectiveness of the RGFs in reducing the amount of time and money spent per session for those Regular VL Players who, over the course of the study, switched their play from the old to the new machines. The effects of the RGFs are also examined in association with risk for problem gambling (low versus high risk players as identified by the Canadian Problem Gambling Index [CPGI]).

There were seven individual responsible gaming features (RGFs) examined:
1. Display of cash amounts instead of credits
2. On-screen clock
3. 60-minute pop-up message
4. 90-minute pop-up message
5. 120-minute pop-up message
6. 5-minute cash out warning (at 145 minutes)
7. Mandatory cash out at 150 minutes

On-Screen RGFs

The 7 individual RGFs examined include:
On-Screen RGFs
- ***display of cash amounts rather than credits***
- ***on-screen clock***

Pop-Up Messages After Periods Of Uninterrupted Play
- ***60-minute reminder***
- ***90-minute reminder***
- ***120-minute reminder***
- ***5-minute cash out warning at 145 minutes***
- ***mandatory cash out at 150 minutes***

Cash Amounts on Screen - The new machines keep track of the amount bet and winnings accumulated in units of dollars and cents rather than in credits. This should heighten gamblers' awareness of how much they are spending, helping them stay within their spending budget if they have one, and making them more aware of any accumulated losses. It may also reduce the excitement of the game as the amount won per play is reported as dollars and cents rather than high credit numbers.

On-Screen Clock - An on-screen clock was added to the display to help gamblers keep track of how long they play on the machines. The clock is always on the screen and is intended for use as a "reality check" for players in managing the time spent playing the games. This feature should help those who tend to lose track of time and might quit earlier if they realized the actual time and/or the playing time elapsed. It might also help those who set a budget for time to stick to their commitment.

All players of the new terminals are exposed to these two features. Therefore, in assessing the impact of the features (on-screen clock and use of cash rather than credits), exposure to the RGF could not be used as an independent measure. Instead, measures indicating players' subjective reaction to, or use of, the features were used.

Three measures were used to help identify the possible impact of these on-screen features:
- Awareness of the features
- Use of the feature (clock)
- Liking of the features

Pop-Up Messages

60-Minute Reminder – This pop-up window informs players that they have been playing for 60 (continuous) minutes and asks if they wish to continue playing. The timer resets to zero if players cash out or let the money in the machine go to zero.

90-Minute Reminder

120-Minute Reminder

> **5-Minute Cash Out Warning** - at the 145 minute mark, this window informs the gambler that he/she will automatically be cashed out at the 150-minute mark.
>
> **Mandatory Cash Out after 150 minutes** – the machine automatically stops play and cashes out the player.

These features are designed primarily to gain gamblers' attention by interrupting play and having them focus on the length of time they have been playing. Again, those who have a time or money budget may find these features useful in helping them to manage or control their play.

Unlike the clock and money features, not all players will see the pop-up screen messages each time they play on the new terminals. Only those who played uninterrupted for periods longer than an hour and did not let the cash level in the machine drop to zero would be exposed to any one of the pop-up reminders. Thus, by design, only those who play the longest on a continuous basis (and therefore likely spend more) are expected to see these RGFs.

Analysis Approach

Segmentation

The segment of interest in this analysis is SWITCHERS – Regular VL Players who played mainly on the old terminals during the Pre measure but switched, over the course of the study, to be playing mostly on the new terminals with RGFs during the Post 3 measure.

In Section 2 - General Overview, the findings were examined by adoption of play on the new terminals. Adopters (n=75) were defined as those players who at the end of the study (Post 3 Survey - February 2002) were playing mainly on the new terminals (75%+ of times played in the last month). Non-Adopters (n=89) were comprised of those who at the end of the study continued to play mainly on the old terminals.

This analysis was used to track and compare differences between those who adopted play on the new terminals versus those who did not, while minimizing the influence of a "novelty effect" for the new games or machines. All participating players had been exposed to the new or modified machines for at least six to eight months by the end of the trial period. The vast majority (84%) had tried the new games at some point and, by the Post 3 Survey, Adopters, on average, had played approximately 50 times on the new terminals (median=25 times). Therefore, by the final survey, play on the new terminals was expected to have settled into more typical play patterns thereby allowing for more meaningful comparisons of any differences between Adopters and Non-Adopters. Findings presented in Section 2 - General Overview are based on aggregate level (total responses) comparisons between these two groups of players.

However, in order to specifically assess the impact of the RGFs on changes in behaviour, a different approach is required. Such analysis must be sensitive to changes in individual rather than group responses. This means that measures are compared over time (Time 1 versus Time 2) on a per player basis. Ideally, a baseline or "Pre" measure benchmark is obtained (Time 1), an "intervention/change" is then introduced, and then a "Post" measure (Time 2) is conducted. By comparing the results between the Time 1 and Time 2 measures, based on exposure to the modifications/intervention, it is possible to model and isolate the impacts of the intervention in influencing player responses (behaviour or outcomes).

This was the basis of the original design for the study. The Pre Survey was intended to be conducted prior to the introduction of the new terminals in order to establish benchmark measures of responses associated only with play on the older model terminals. The results of the Pre Survey would then provide a baseline for comparison to results gathered approximately eight months later, following the introduction period. Those who had adopted play on the new terminals would comprise the test group whereas those who continued to play on the old terminals would comprise the "control group".

Despite due diligence, there were inherent and unavoidable delays associated in coordinating the activities of the various diverse groups, impacting the execution of the first phase of the research.[2] Consequently, there was an overlap between the initial rollout of the new terminals and data collection for the Pre Survey. During the Pre Survey, 38% (n=62) of participating players had already tried the new terminals with 12% (n=20) having played 75% or more of the times they had played in the last month on the new machines. This introduced a new challenge for the analysis. Therefore, to minimize the influence of any early exposure to the new terminals, it was necessary to redefine the test and control groups for the impact analysis.

The player segment of interest is referred to as the **Switchers** in this analysis and is comprised of those regular VL gamblers who switched play to the new machines over the period of the study. Specifically, Switchers are characterized as those players who initially reported playing on the old machines 75% or more of the time during the month prior to the Pre survey, and then reported playing on the new machines 75% or more of the time the month prior to the last survey (Post 3 – February 2002). There are 55 participating players who qualified as Switchers on the sample.

---

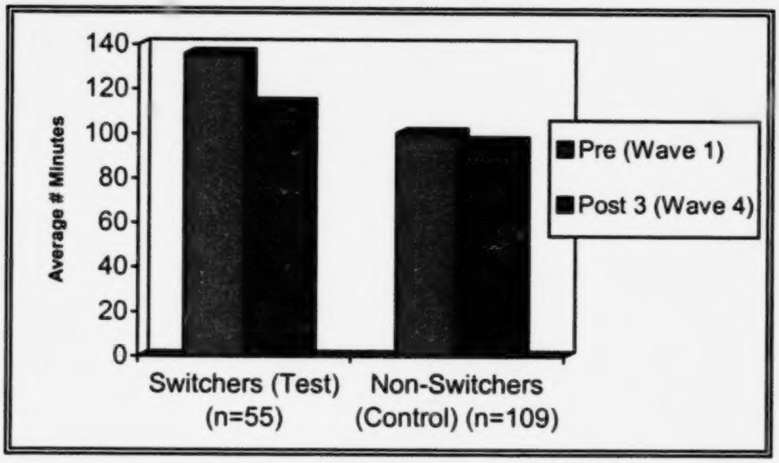
[2] In order to draw the sample for the on-site intercepts, it was necessary to coordinate the cooperation of ALC sales and marketing in obtaining a current retailer database and ensuring retailers were informed of the process. It was also necessary to secure permission from selected VLT site-holders, inform site staff and management, work cooperatively with the technicians and management executing the rollout schedule for the new terminals, and work with the project team at NSGC and ALC in identifying the appropriate sampling frame in light of on-going changes and adjustments to the rollout schedules and delivery by the VLT manufacturers.

There were another 109 respondents in the sample who did not change the majority of their play sessions to the new machines during the study. These individuals were classified as **Non-Switchers.** Most of these players continued to play on the old machines (although many did play the new machines on a trial basis). Some individuals in this Non-Switcher group (n=20) had already adopted play of the new machines at the time of the Pre survey and continued to play on these new terminals, thereby eliminating the opportunity to compare changes, due to the machines, over the course of the study.[3] The Non-Switcher group is essentially the control group for comparison with the Switcher "test" group.

Session Length by Player Segment (Switchers versus Non-switchers)

The average length of play declined for those who switched over to the new terminals (≈136 minutes versus 114 minutes) while session length remained stable for the Non-switchers (≈100 minutes).

Figure 4.1 – Average Session Length By Switcher Segments
Wave 1 Versus Wave 4



The **Switchers** played an average of 135.85 minutes the month prior to the first survey, but their average length of play dropped significantly, to 113.67 minutes (p=.033; one tailed test) the month prior to the final survey. **Non-switchers** (i.e., those Regular VL Players who did not switch over to the new machines from the old) continued to play at their previous levels (100.39 minutes compared to 96.51

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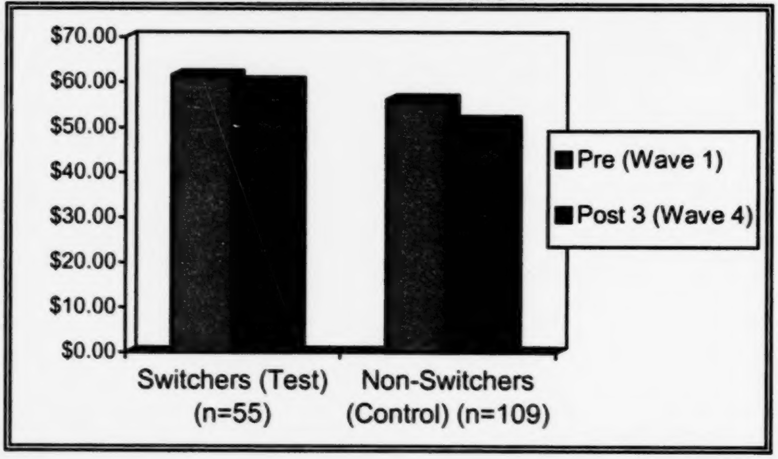
[3] The characteristics and playing profile of all those adopting play of the new terminals are examined in detail in Section 2.

minutes – p=.313; one tailed test). This suggests that those who tended to play for longer periods of time were initially attracted to the new machines. Over the period of the study, the average session length for the Switchers declined by 22.18 minutes, or 16.33% as they adopted play on the new machines. If the average length of play of the Non-Switchers had also declined, then the results might have been attributed to some other factor that affected sampled players in general. **However, given that there was a reduction in length of play noted only for those who switched their play over to the new terminals, it can be concluded that the new terminals are associated with a decline in session length.**

Expenditure by Player Segment (Switchers versus Non-switchers)

Per session expenditures remained constant in both groups. Thus, the amounts spent by switchers did not change, although the rate at which they spent appears to have increased.

Figure 4.2 – Average Per Session Expenditure By Switcher Segments Wave 1 Versus Wave 4



There was no significant change in per session expenditure between those who had switched over to playing on the new terminals (Switchers) and those who had not (yet) changed (Non-Switchers). **Essentially, per session expenditures remained constant for both Switchers (Pre: $61.58 versus Post 3: $60.00) and Non-Switchers (Pre: $56.18 versus Post 3: $51.47).**

This means that despite a reduction in session length, Switchers continued to spend at the same level on the new terminals. These results are consistent with findings for all Adopters as presented in Section 2. Thus, it appears that while play on the new terminals was not associated with increases in absolute expenditures, there was an apparent increase in the rate of expenditure.

ANOVA Analysis

In order to isolate the effects of the RGFs on changes in session length and expenditure, analysis was conducted using Repeated Measures ANOVA with covariates (General Linear Modeling).

Analysis of this data was conducted using the Repeated Measures ANOVA with covariates using the General Linear Model (GLM) module of SPSS 10.0.5. The **dependent variables in the models were length of session and session expenditure**, from the Pre survey and Post 3 survey. The **independent variables (factors) in each model were exposure to the RGF** (one model per RGF) **and risk for problem play** (low versus high risk players based on CPGI classification. See Section 2).

Analysis began with a broad range of variables (described below) to identify possible influences on the dependent variables. At each iteration of the GLM analysis, the covariate with the least significant relationship (greatest p-value) was removed from the model, and the analysis repeated with the reduced set of covariates (backward elimination). All final models only contained variables that were significant as covariates at the $p \leq .10$ level.

A separate analysis was conducted for each of the RGFs, as exposure to each of the pop-up message RGFs is highly correlated. This occurs because the messages are sequentially related. For example, almost all of those exposed to the 90-minute pop-up reminder would also have been exposed to the 60-minute pop-up reminder. Thus, there is considerable overlap among those exposed to each successive pop-up, although the number of respondents seeing specific messages declined as the length of time required for a specific pop-up message to appear increased (i.e., fewer players saw the 120 minute reminder then was the case for the 90 and 60 minute pop-ups). In order to determine if the on-screen RGFs (clock, display of cash amounts instead of credits) influenced session length and/or expenditures, these features were also examined in separate analyses. In total, 14 separate models were developed – 7 RGFs with each of the two dependent variables (session length and expenditure). In addition, separate models were undertaken to assess the role of use of the bill acceptor on changes in session length and expenditure.

Controls Instituted For Confounding Factors

Regression effect refers to the tendency for extreme responses to naturally move towards the mean over repeated measures, leading to changes in individual behaviours that are unrelated to any other factors or in this case, interventions.

Regression Effect

There are several possible explanations for the changes in the amount of time or money spent over the course of the study, and one confounding factor may be regression effect. A decline due to regression effect was anticipated at the design stage of the study. Regression effect refers to the tendency for extreme responses to move towards the mean over repeated measures. This means that a certain sub-segment of players sampled at a particular point in time with higher than average play behaviour can be expected to regress toward the mean of all players over subsequent measurement periods. In the current study, the mean length of play for Regular VL Players was 110.24 minutes per session. This figure is well above the average session length generally reported for all Regular VL Players in the province (69.7 minutes as measured in the 1997/98 NS VL Players' Survey). One would therefore expect results for both the Switchers and Non-Switchers to have declined toward the lower mean. This did not happen at an aggregate level, but could still be exerting influence for findings based on individual behaviours. To help control for potential influence of the regression effect at an individual level, the Pre survey play level was used in the Repeated Measures ANOVA as a covariate to control for the length of play sessions prior to the study.

Change In Rate of Expenditure

A second possible confounding factor is related to potential changes in the way the new machines are played, causing players to spend at different rates while gambling, thus affecting both expenditure per session and length of session.

Change in speed of expenditure between the old and new terminals could also result in concomitant changes in length of play or expenditure that could be expected to mask the effects of the RGFs.

During preliminary analysis of the data, it became clear that there had been a change in the rate of expenditure on the new terminals with RGFs. On average, there had been a reduction in how much time players spent playing on the new machines, although the amount of money spent remained constant. While the RGFs may be influencing reduction in length of play, an alternative explanation could attribute the reductions to other factors such as machine characteristics (e.g., faster game mechanics, availability of bill acceptors) in conjunction with player behaviours (e.g., higher bet levels, greater use of stop buttons or bill acceptor).

While it was not possible to control for all the potential factors on an individual basis, a derived measure of amount spent per minute could be used as a covariate to control for the combined effect of all the possible variables in influencing changes in session length or expenditure. **Thus, the new variable, "*change in amount spent per minute*" between the Pre and Post 3 survey was included as a covariate in all analyses, in order to better isolate and identify the effects of the RGFs in influencing the dependent variables.**

Additional Analysis

Additional analysis was undertaken to assess:
- Potential impact of bill acceptor
- Determinants of change in amount spent per minute

Potential Impact Of Bill Acceptors

A separate ANOVA was conducted with "reported use of the bill acceptor" (i.e., coins only, bill acceptor only, combination) as a factor in order to determine this feature's possible impact on session length and expenditure. Although the study was not designed with such an evaluation in mind, post hoc analysis was commissioned to gain additional insight as to the potential role of the feature in influencing results.

Determinants Of Change In Amount Spent Per Minute

Additional exploratory analysis was undertaken to further examine and determine the possible causes of changes to expenditure rates on the new terminals. This included regression analysis conducted on both the total sample of players and for the sub-sample of Switchers.

Impact For Problem Play

In all ANOVAs, Player Status was included as an independent variable (i.e., factor versus covariate) to determine any main or interaction effects of problem play (risk of developing problems based on CPGI score) with the RGFs for either session length or expenditure. Given the sample size for the test group (Switchers, n=55), it was not possible to examine potential interaction effects for problem play based on the four player risk groups. Therefore, the measure was dichotomized into lower versus higher risk player segments for comparative purposes.

In all cases, Player Status was included in the analysis to assess the impact of results for those at lower versus higher risk for problem play.

VARIABLES ENTERED INTO ANALYSIS

Dependent Variables:

Session Length Analysis
- Average length of VL play session in the month prior to the Pre survey
- Average length of VL play session in the month prior to the Post 3 survey

Expenditure Analysis
- Average Expenditure per VL play session in the month prior to the Pre survey
- Average Expenditure per VL play session in the month prior to the Post 3 survey

Independent Variables:

- Between subjects factors (dichotomous variables)
  - 60, 90, 120 minute pop-reminders, 5-minute warning, 150-minute mandatory cash out, frequency of reference to the on-screen clock and liking of playing with cash amounts instead of credits - a separate model was developed for each of these RGFs
- Problem Play Status (dichotomous variable based on CPGI classification)
  - Regular VL Players are classified as "Low Risk" (i.e., No Risk and Low Risk players; CPGI Score=0 to 2) or "High Risk" (i.e., Moderate Risk and Problem Players; CPGI Score=3+), included with each of the RGF models

- Covariates
  - Average expenditure per session in the month prior to the Pre survey (in Expenditure models)
  - Average length of session in the month prior to the Pre survey (in Session Length models)
  - Change in expenditure per minute between the Pre survey and Post 3 survey (control for regression effect)
  - Frequency of referring to on-screen clock while playing (in all models except when included as an independent variable)
  - Liking of playing with cash amounts instead of credits (in all models except when included as an independent variable)
  - Liking of the availability of the on-screen clock
  - Liking of the availability of the bill acceptor
  - Age of respondent
  - Highest level of education completed
  - Preference/liking for new machines
  - Number of times played on new machines in the month prior to Post 3 survey
  - Number of times played VLTs in the month prior to Post 3 survey
  - Frequency of losing track of time while playing the machines
  - Frequency of losing track of how much money is being spent while playing the machines
  - Frequency of spending more time playing VLTs than they would like

- Frequency of spending more money playing VLTs than they would like
- How often they cash out and continue to play
- Frequency of letting the credits get down to zero before putting in more money
- How often they try to win back money that they lost through gambling (chasing losses)
- Gender
- Area of residence (urban/rural)
- Usually set a time and/or money budget

The variables included in the analysis were selected based on hypothesized influences on the dependent variables and/or to determine their possible influence on the dependent variables.

Role Of Covariates

The inclusion of covariates in the models removes the "noise" in the data that may be masking the effects of key variables of interest and at the same time provides valuable insight as to the role of other behaviours/ characteristics that may be influencing differences in players' responses.

The purpose of the covariates is:

- to eliminate some systematic error, outside the control of the researcher, that can bias results (e.g., regression effect, change in rate of expenditure on new machines);
- to account for differences in the responses due to unique characteristics of the respondents[4] (e.g., those who keep a budget for VL play responded differently in association with exposure to the specific RGFs and related effects on changes in time or money spent).

Basically, the intention is to remove differences associated with other factors before effects of an "experiment" are calculated. Ideally, an effective covariate is one that is highly correlated with the dependent variable (i.e., time and money spent), but not correlated with the independent variable(s) (e.g., exposure to the RGF and risk for problem play). It should be noted that this approach was adopted in the current study for modeling the impacts of the RGFs with one caveat. There were five specific behaviours included as potential covariates that are significantly correlated with risk for problem play.

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[4] Multivariate Data Analysis With Readings, Third Edition, Joseph F. Hair, Ralph E. Anderson, Ronald L. Tatham, William C. Black, MacMillan Publishing Company, New York, 1992. pp 178-179.

Table 4.1 – Potential Covariates Significantly Related To Risk For Problem Play (Switchers Only)

Variable (from Post 3 Survey):	Pearson Correlation	Significance
Frequency of losing track of time while playing	.361	.007
Frequency of losing track of money while playing	.368	.006
Frequency of spending more time than desired/ wanted during play	.339	.011
Frequency of spending more money than desired/ intended during play	.384	.004
Frequency of chasing losses during play	.427	.001

If differential responses on these measures were significant in explaining any relative variance for changes in session length or expenditure, the variable was retained as a covariate in the model for the RGF being tested.

The rationale for this approach is two-fold:

- it would assist in better identifying what specific aspects of "risks for problem play" were contributing to differences in players' responses to the RGFs and changes in time or money spent (e.g., losing track of time while playing versus chasing losses);

- it would identify the magnitude of the impact of this particular behaviour relative to effects explained by other variables or general risk for problem play (e.g., it could have emerged that chasing losses explained twice the variance in time or money spent, as compared to the variance explained by risk for problem play on its own).

It was believed that such an approach would provide greater value in assessing the impact of the RGFs and in identifying opportunities for intervention enhancements. However, it could be argued that inclusion of any of the covariates in the final model may reduce the residual effects that could be explained by the factor for risk of problem play in general. Therefore, it is important that the relationship between these covariates and risks for problem play are recognized and considered when evaluating the results of the analysis. As a precaution, for models in which any of these covariates were found to be significant but did not yield significant main effects or interactional effects for play status, the analysis was repeated with the covariates removed.

Presentation Of Results

Repeated Measures Model (Session Length & Expenditure)

The results for the Repeated Measures Model analysis are presented using both a table format for the overall effects and charts for illustrating the relationship between the factors and the effects.

The tables provide estimates of the relative variance explained (Eta Squared) and the level of significance for the effects of each covariate and factor on changes in session length and expenditure.

Interpretation Of Tables (4.2 - 4.5)

The results of the Repeated Measures Model analysis for the seven RGFs are presented in table format. Two numbers are presented for each variable in the respective models, indicating the effect of each covariate or factor. The first is the significance level for the variable in the analysis (for purposes of this analysis, levels of $p \leq .10$ are considered significant). The second statistic reported is the variance explained (eta^2), which indicates the relative contribution of the variable in explaining the variance in the dependent variable (change in session length or change in expenditure).

Interpretation Of Charts (Figures 4.3 - 4.7, 4.9 - 4.16)

The charts provide the estimated mean minutes per session or amount spent for the Pre survey and Post 3 survey, after taking into account the effect of the covariates. Therefore, the figures in the graphs do not represent the actual amount of time or money players spent playing VLTs each time they played. Instead, the averages reflect estimated session lengths or expenditures after the effects of the covariates have been parceled out of the measures. Thus, they represent the best profile of the estimated effect of the factors on change in session length or change in expenditure.

The charts illustrate the relationship between the factors, RGFs and risk for problem play, for significant main effects or interactions related to changes in session length or expenditure.

For example, those who saw the pop-up RGF are estimated to have the same length of play as those who did not see the pop-up RGF, due to use of the pre-introduction survey session length as a covariate to control for the regression effect. The analysis essentially starts all players at the same level and measures how their session length changed with exposure to or use of a particular RGF.

In addition, multiple regression analysis was used to identify player characteristics or behaviours associated with changes in the rate of expenditure on the new terminals.

The presentation of the results for each analysis are organized as follows:

- Results: For Session Length
    - impact of RGFs on changes in session length

  - role of significant covariates

- Results: For Expenditure
  - impact of RGFs on changes in expenditure
  - role of significant covariates

- Results: Change In Expenditure Rate
  - identification of increase in amount spent per minute on new terminals
  - determinants of increased amount spent per minute

Results: Session Length

> *"It is apparent that Problem Players spend more time playing the games each time they play and that helping them to control the amount of time spent in front of the machine may be an important part of reducing their problem video lottery gambling."* [5]

Table 4.2 – Results of Repeated Measures Model (Session Length)

	60 Minute Pop-up		90 Minute Pop-up		120 Minute Pop-up		5 Minute Warning		150 Minute Cash Out		On Screen Clock		Cash Instead Of Credits	
	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2
COVARIATES:														
Change in revenue/minute (Pre to Post 3 Survey)														
	.000	.319	.000	.252	.000	.234	.000	.340	.000	.343	.000	.366	.000	.355
Pre Session length (Regression Effect)														
	.000	.474	.000	.539	.000	.546	.000	.482	.000	.504	.000	.570	.000	.550
Age														
	.086	.067	---	---	---	---	---	---	---	---	---	---	---	---
Frequency of losing track of time while playing														
	.054	.083	---	---	---	---	.038	.094	.034	.098	.036	.096	.049	.085
Urban/Rural area of residence														
	.000	.277	.005	.158	.004	.169	.002	.204	.002	.201	.001	.233	.001	.222
Keep a time and/or money budget														
	.023	.115	---	---	---	---	.025	.109	.024	.111	.022	.113	.016	.125
Number of times played new terminals in month prior to survey														
	.100	.062	.035	.093	.031	.097	.084	.066	.084	.066	.049	.085	.086	.066
Frequency of cashing out and continuing to play														
	.004	.174	.005	.162	.004	.169	.004	.177	.004	.172	.001	.230	.002	.194
FACTORS:														
Exposure to RGF														
	.081	**.069**	**.060**	**.075**	**.034**	**.094**	.959	.000	.894	.000	.355	.019	.487	.011
Player Status (Low versus High Risk)														
	.545	.009	.265	.027	.319	.022	.282	.026	.276	.027	.327	.022	.117	.055
RGF * Player Status														
	.252	.030	.217	.033	.303	.023	.856	.001	.911	.000	.134	.050	.473	.012

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[5] NS DOH 1997/98 Nova Scotia Video Lottery Players Survey, Focal Research Consultants Ltd., Section 3.0: Problem Gamblers' Analysis, pp 3-15.

Results: Session Length

> *"It is apparent that Problem Players spend more time playing the games each time they play and that helping them to control the amount of time spent in front of the machine may be an important part of reducing their problem video lottery gambling."* [5]

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	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2
COVARIATES:														
Change in revenue/minute (Pre to Post 3 Survey)	.000	.319	.000	.252	.000	.234	.000	.340	.000	.343	.000	.366	.000	.355
Pre Session length (Regression Effect)	.000	.474	.000	.539	.000	.546	.000	.482	.000	.504	.000	.570	.000	.550
Age	.086	.067	---	---	---	---	---	---	---	---	---	---	---	---
Frequency of losing track of time while playing	.054	.083	---	---	---	---	.038	.094	.034	.098	.036	.096	.049	.085
Urban/Rural area of residence	.000	.277	.005	.158	.004	.169	.002	.204	.002	.201	.001	.233	.001	.222
Keep a time and/or money budget	.023	.115	---	---	---	---	.025	.109	.024	.111	.022	.113	.016	.125
Number of times played new terminals in month prior to survey	.100	.062	.035	.093	.031	.097	.084	.066	.084	.066	.049	.085	.086	.066
Frequency of cashing out and continuing to play	.004	.174	.005	.162	.004	.169	.004	.177	.004	.172	.001	230	.002	.194
FACTORS:														
Exposure to RGF	**.081**	**.069**	**.060**	**.075**	**.034**	**.094**	.959	.000	.894	.000	.355	.019	.487	.011
Player Status (Low versus High Risk)	.545	.009	.265	.027	.319	.022	.282	.026	.276	.027	.327	.022	.117	.055
RGF * Player Status	.252	.030	.217	.033	.303	.023	.856	.001	.911	.000	.134	.050	.473	.012

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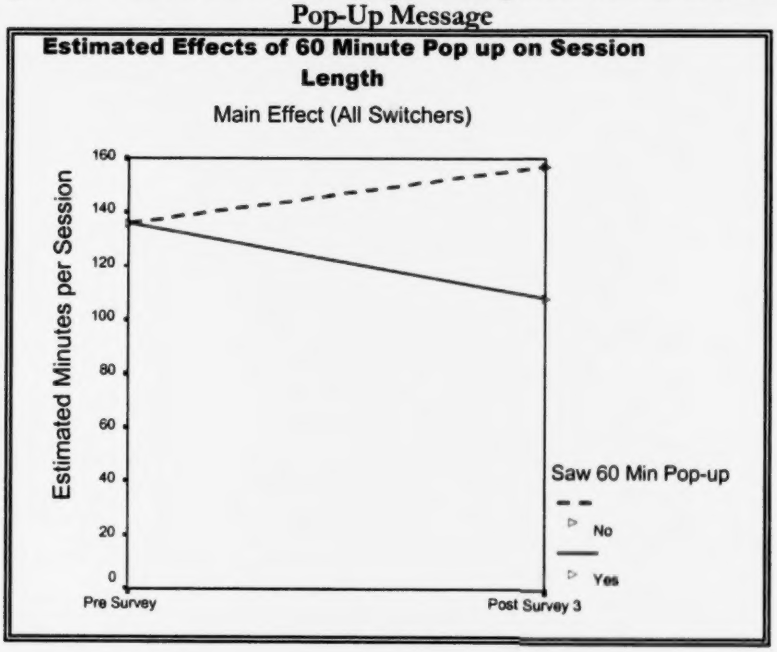
[5] NS DOH 1997/98 Nova Scotia Video Lottery Players Survey, Focal Research Consultants Ltd., Section 3.0: Problem Gamblers' Analysis, pp 3-15.

Results - Pop-Up Messages

The only factors that had a significant effect on length of play at the 90%+ confidence level (p≤.10) are the 60-minute pop-up message (p=.081), the 90-minute pop-up message (p=.060) and the 120-minute pop-up message (p=.034). The remaining RGFs had no significant main effect on the change in length of play between the two measurement periods, nor were there any main effects or interaction effects associated with risk for problem play.

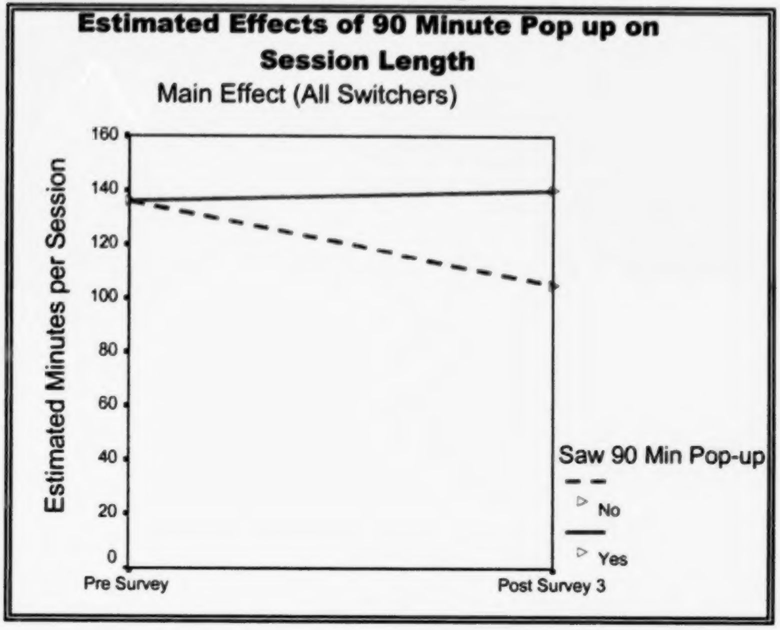
Figure 4.3 – Effect On Session Length Of Exposure To The 60-Minute Pop-Up Message



Exposure to the 60-minute pop-up message had a small yet significant effect in reducing session length, whereas those who did not see this RGF increased the length of time played on the new terminals.

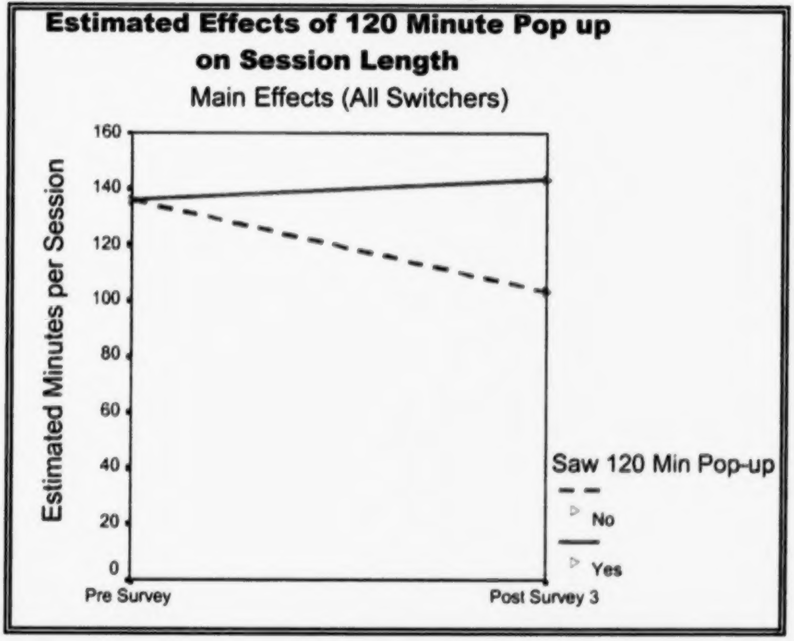
In the model for the 60-minute pop-up, there was a significant main effect observed for all Switchers. If a player had seen the 60-minute pop-up message during play, there was a slight reduction in session length whereas if they did not see the message, the length of time they spent playing increased. The effect was not strong and explained only 6.9% of the relative variance for changes in session length. **However, the results for exposure to the 60-minute pop-up were significant and occurred in the expected direction (p=.081, eta^2=6.9%).**

Figure 4.4– Effect On Session Length Of Exposure To The 90-Minute Pop-Up Message



For both the 90-minute and 120-minute messages, only those who did ***not*** *see the RGF had a significant reduction in session length.*

Figure 4.5 – Effect On Session Length Of Exposure To The 120-Minute Pop-Up Message



Results for the 90-minute and 120-minute pop-ups likely reflect the fact that exposure to the messages is tied to continuous play. Other factors related to continuous play appear to be more influential in affecting players' behaviours than the pop-up reminders. Since all players involved in prolonged uninterrupted play on the new terminals will see the pop-up reminders, it is not possible to specifically examine the impact of exposure to the pop-ups among only those who play for long, continuous periods. It may be that for some of these individuals the RGFs had a positive impact insofar as they did not increase time spent playing.

There were also significant main effects observed for both the 90-minute (p=.060, eta^2=7.5%) and 120-minute messages (p=.034, eta^2=9.4%). However, in both cases and contrary to exposure to the 60-minute message, the effect was inversely related to seeing the RGF.

Essentially, exposure to either message did not lead to an appreciable increase in session length. However, those who did not see either message during play were significantly more likely to have experienced a reduction in how long they had played. Again, the impact was small, accounting for 7.5% to 9.4% of the relative variance in explaining any change in session length, but did indicate that some aspect of exposure to the pop-up messages after 90 and 120 minutes had some impact in sustaining, rather than reducing, play sessions.

Most likely, this is due to the fact that extended continuous play occurs mainly in either of two situations. As observed in Sections 2 and 3 of this report, players do not tend to interrupt their play session if they are winning or, particularly for higher risk players, if they are also chasing losses. Since, by definition, all Switchers had taken up play on the new terminals during the Post 3 survey, any of these individuals playing for extended continuous periods would be exposed to the pop-up messages. While exposure at the 60-minute mark led to a decline in length of play, those who did not respond at this point were unlikely to be influenced by any further exposure at the 90 and 120-minute intervals and, in fact, were playing for longer periods than would be the case if they had not seen the message[6]. Hence, seeing the message was also a proxy for having played for a continuous period of 90 minutes or more. From one perspective, the results suggest that targeting those involved in continuous play is reasonable as these long sessions of uninterrupted play appear to sustain total time spent on the machines. However, the lack of impact by the current RGF suggests that improvements are required if interventions are going to supercede other factors supporting on-going play.

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[6] Chasing of losses was included as a covariate in the model and subsequently excluded from the analysis as it was not significantly related to the dependent variable (changes in session length). The effect of accumulating wins in extending play was not specifically measured during the current study and, thus, could not be included in the model as a covariate. However, results for other play behaviours suggest that continuous play occurs more often in response to accumulating wins while losses are more often associated with increased play interruptions (i.e., credits running down to zero).

Results – Other RGFs & Machine Features

5-minute Warning & Mandatory Cash Out Feature

In terms of its impact on session length, the 5-minute warning at 145-minutes of continuous play and the mandatory cash out at 150 minutes had no main effect or interaction effect. **Thus, in the current study, exposure to this feature had no influence on changing session length.**

On-Screen Clock

Unlike exposure to the pop-up messages, all those who played the new terminals are automatically exposed to the on-screen clock. Consequently, exposure could not be used as a factor in the analysis in order to isolate the effects of the clock. Instead, reported use of the clock was included as a covariate (a five point scale with 1 indicating they never, and 5 indicating they continuously refer to the clock on the screen while playing). The assumption underlying this approach was that those who use the clock more frequently are more likely to be influenced to reduce session length. In the end, this variable did not remain in the group of variables that explained change in session length in any of the five pop-up models analyzed, nor was there any main effect or interaction effect when use of the clock was examined as a primary factor (independent variable) in a separate model ($p=.355$, $eta^2=1.9\%$).

Neither use of the clock nor liking for the cash display were related to any changes in length of play.

Cash Amounts Display

Displaying cash amounts rather than using credits also did not appear to have any significant effect, either as a covariate or a factor ($p=.487$, $eta^2=1.1\%$). Similar to the on-screen clock, all those playing on the new terminals are exposed to the display of bet activity in cash amounts rather than credits. Unlike the on-screen clock, use of the cash display could not be measured. Therefore, this RGF was evaluated based on liking of the feature.

Bill Acceptor

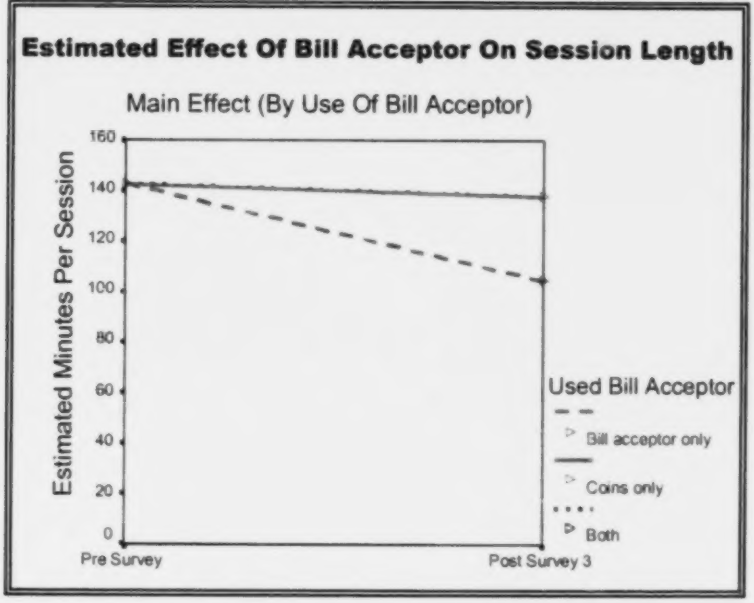
A separate repeated measures ANOVA was conducted using the reported use of the bill acceptor as a main factor in the analysis (used the bill acceptor only, coins only or used both the last time they played in the Post 3 Survey). The only other factor included was risk for problem play, with the covariates used in the other RGF analyses.

Exclusive use of the bill acceptor was associated with declines in session length, suggesting the feature tended to increase the speed of play on the new terminals for those Switchers who stopped using coins and instead predominantly used bills.

Table 4.3 – Results Of Repeated Measures Model (Use Of Bill Acceptor)

	Significance	Eta²
COVARIATES:		
Change in expenditure/minute (Pre to Post 3 survey)	.000	.476
Average session length in Pre survey (Regression Effect)	.000	.574
Number of times played new terminals in past month	.082	.086
Area of residence (urban/rural)	.008	.190
Keep a time and/or money budget	.054	.105
Gender	.087	.084
Frequency of letting credits go down to zero before putting in more money	.042	.116
Frequency of cashing out and continuing to play	.011	.175
Frequency of spending more money than intended	.070	.093
FACTORS:		
Use of bill acceptor	**.108**	**.123**
Player status (low versus high risk)	**.072**	**.092**
Use of bill acceptor * Player status	.322	.064

Figure 4.6 – Effect On Session Length By Use Of the Bill Acceptor



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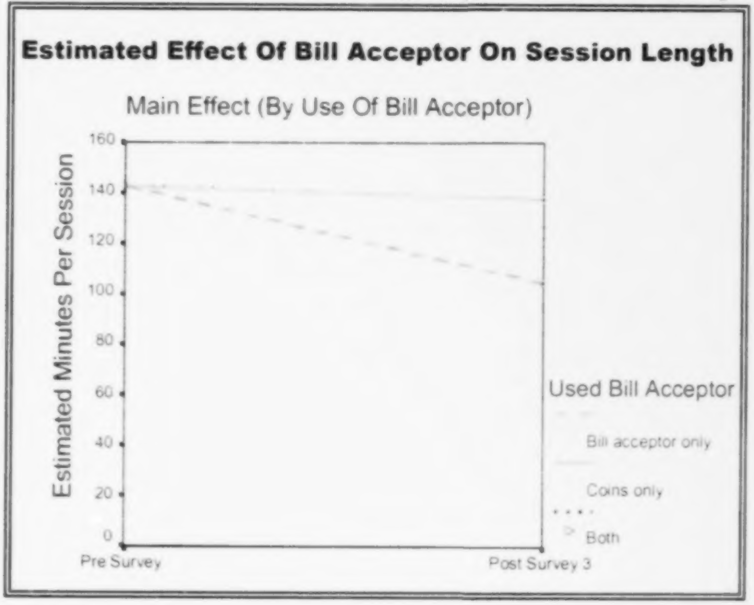
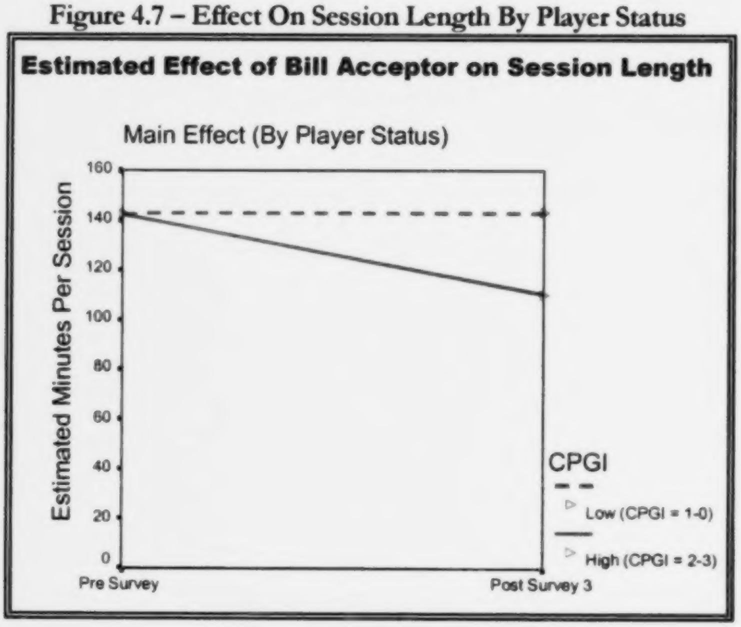


The influence, for use of the bill acceptor, on session length was marginally significant (p=.108) and explained approximately 12.3% of the relative variance in the model. Given the exploratory nature of the analysis, the finding is included to provide direction and insight but should not be considered conclusive. In general, it appears that exclusive use of the bill acceptor was associated with a decline in session length whereas there were no changes observed for those who used coins or a combination of coins and bills.

Figure 4.7 – Effect On Session Length By Player Status



There was also a main effect by Player Status, with a decline in session length observed among those Switchers at high risk for problem gambling (p=.072, eta^2=9.2%), that is independent of use of the bill acceptor. Thus, it appears that other machine characteristics, aside from the bill acceptor and the RGFs, are influencing reductions in length of play for those at higher risk for problem gambling.

For use of the bill acceptor, the following covariates were also found to be significantly related to ***reductions*** in session length:

- change in amount spent per minute on the new machines (p=.000, eta^2=47.6%)
- Switchers living in rural areas of the province (p=.008, eta^2=19.2%)
- setting a budget for play (p=.054, eta^2=10.5%)

The following covariates were related to ***increased*** session length for use of the bill acceptor:

- frequency of letting credits go down to zero before putting in more money ($p=.042$, $eta^2=11.6\%$)
- frequency of cashing out and continuing to play ($p=.011$, $eta^2=17.5\%$)
- frequency of spending more money than intended ($p=.070$, $eta^2=9.3\%$)

For two of the three covariates contributing to longer play, "frequency of running credits down to zero" and "cashing out" could both be expected to reduce players' exposure to the pop-up messages, and is likely contributing to their tendency to be spending both time and "money beyond intended limits".

There has been a significant change in the rate of expenditure on the new terminals. While additional analysis is required in order to identify the factors contributing to this result, the change in amount spent per minute is associated with reductions in session length. Therefore, in order to better isolate the effects of the RGFs on length of play it was necessary to introduce a variable to control for this increased rate of expenditures on the new versus old terminals.

Other Covariates Related To Change In Session Length

Average Length Of Session – Pre Survey (Regression Effect)

As anticipated and controlled for in the model design, regression effect had a significant impact on session length, explaining approximately half of the relative variance in session length in any of the seven models ($eta^2=47.4\%$ to 57.0%, $p<.000$). These results underscore the importance of controlling for regression effect when using repeated measures[7].

Increased Rate Of Expenditure

The increased rate of amount spent per minute on the new terminals contributed most strongly to the decline in session length. It was significant in all seven models, explaining approximately 23% to 36% of the relative variance for change in session length.

There are several reasons why the gamblers may have changed their expenditure rate over the period of the study. These include playing at different bet levels, different (new) games may require different playing strategies, and some may require more thought or player interaction before a turn is taken. Some games play at different speeds, while others accumulate winnings at different rates. In some games the player can shorten the spin cycle by using the "stop" button. As well, the bill acceptor makes it easier for the gambler to insert cash into the machine. Many players set a cash budget, or quit when they run out of cash, so their average length of play is affected by the speed at which they spend this cash. It was not possible to control for all of these factors, but a derived measure of expenditure per minute was used to control for the effect of all of these variables as a covariate.

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[7] This finding implies that almost twice as much of the "change" in session length between the Pre and Post 3 survey measures is occurring naturally, in response to normal and expected changes in extreme responses. Thus, including the regression effect as a covariate means that the effects of other factors and related behaviours can be identified.

Cash out behaviour during play will reduce players' potential exposure to the pop-up messages. However, those Switchers who reported frequently cashing out tended to have decreased how long they played.

The fact that the covariate was significant indicates that expenditure per minute did have an effect on session length, that players play to budget levels or play till they run out of cash. Thus, parceling out the effect of this variable enhanced the model's ability to explain the relationships between exposure to the RGFs and change in session length.

Frequency Of Cashing Out And Continuing To Play

Frequency of cashing out and then continuing to play was strongly associated with the changes in session length in all of the models ($p<.010$, $eta^2=16.4\%$ to 17.7%). Those Switchers who reported that they frequently cash out during play tended to decrease their length of play over the period of the study. Our past research has shown that this is a common form of expenditure control.[8]

The current findings suggest that, to a certain extent, this behaviour was successful in leading to declines in length of play. Due to cash out behaviour resetting the internal clock for the pop-up messages, these same individuals will be less likely to be exposed to the majority of RGF on-screen messages.

Area Of Residence (Urban/Rural)

Area of residence was also a highly significant covariate in all seven of the models ($p<.005$, $eta^2=16.9\%$ to 27.7%). **Those living in rural areas are more likely to have reduced session length after switching over to the new terminals, while only a marginal effect was noted for Switchers living in urban areas.** This decline for rural players occurred regardless of whether or not they had been exposed to or influenced by any specific RGFs.

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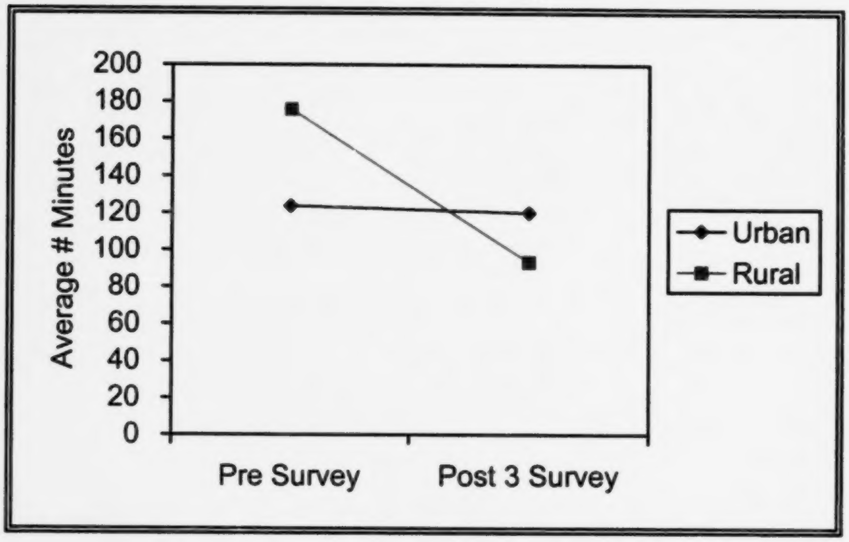
[8] In the 1997/1998 Nova Scotia VL Players Survey and follow-up interviews, it was found that players use this (and other) strategies to extend playing time in the belief that playing with "winnings" minimizes risks for losses and helps the player exert control over the amount spent. However, in many cases this heightens players' interaction with the machines and is associated with playing longer and spending more. It was "cashing out and stopping" or "running down credits and stopping" behaviour that distinguishes non-problem from Problem Players (Section 3.6 - Video Lottery Play Behaviours, pp. 3-50).

Figure 4.8– Session Length For Urban Versus Rural Switchers
Pre Versus Post 3 Survey



Regardless of whether or not they saw the RGFs, session length for rural players declined, while length of play remained constant for those living in urban areas.

There was no change in average session length for urban Switchers over the length of the study, but rural Switchers declined in length of play quite dramatically.

Frequency Of Playing New Terminals In The Last Month

Those playing most often per month on the new terminals tended to report an increase in session length while less frequent players played for shorter periods than was the case on the old terminals.

Those who played the new terminals most often in the last month were more likely to have increased session length over the period of the study, whereas session length declined as frequency of play went down. The effect of frequent play on the new machines was significant in all seven models, explaining 6.6% to 9.7% of relative variance for change in session length.

While this result seems counterintuitive in relation to the increase in the rate of expenditure associated with the new terminals, it is important to note that those who played more frequently (8+ times per month) also tended to have had shorter play sessions during the Pre survey measure than the lower frequency players (Pre: 85.37 minutes versus 156.56 minutes). After switching to the new terminals, this difference in session length between the high and low frequency players diminished (Post 3: 110.13 minutes versus 115.13 minutes). Thus, as frequency of play on the new terminals went up, there were corresponding increases in session length. However, such increases were smaller in relation to the declines noted by those playing at more typical levels each month.[9]

On the new terminals, session length generally declined for those who set a budget regardless of exposure to the RGFs. However, for those who do not set a budget and who are not benefiting from the current RGFs, session length increased.

Setting A Budget For Play

Whether or not the player had set a time or money budget for play was a significant covariate in five of the seven models for the RGFs ($p<.03$, $eta^2=10.5\%$ to 12.5%). Budgeting almost always consists of setting a limit for the amount of money an individual wants to spend. For those Switchers who set a budget, session length declined for exposure to the 60-minute pop-up, warning message at 145 minutes and mandatory cash out at 150 minutes, use of the on-screen clock and liking of the cash display rather than credits.

For those who do not set a budget and are not exposed to the RGFs, session length increased, suggesting that budgeting is a critical area for assisting players in managing both time and money spent on VL gaming.

Not surprisingly, frequency of losing track of time during play was related to increases in session length over the period of the study. As those at greater risk for problem play are more likely to lose track of time, additional efforts to improve players' time management are warranted.

Losing Track Of Time While Playing

Those Switchers who most frequently lose track of time while playing are more likely to have increased their length of play over the study ($p<.06$, $eta^2=8.3\%$ to 9.4%). Similar to results for budgeting, this covariate was significant in all models except for exposure to the 90-minute and 120-minute pop-up messages.

Those who were not helped to keep track of time by the new features increased how long they were playing on the new terminals. It will be recalled that this covariate is significantly correlated with risk for problem gambling, thus, additional efforts will be required if these players are to benefit from features designed to improve tracking of time spent.

Age

Age was only a significant covariate in the model for exposure to the 60-minute pop-up message. The relationship was weak ($p=.086$) and explained only 6.7% of the relative variance in change of session length. However, it appears that younger Switchers were more likely to have reduced session length in association with seeing the 60-minute pop-up, while length of play increased slightly for older Switchers.

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[9] There was also an increase in expenditure associated with higher frequency of play on the new terminals. However, in the expenditure models for the RGFs, other covariates better explained the relative variance for changes in expenditure. Thus, the variable was eliminated as a covariate during the analysis process.

Results: Expenditure

> *While time spent playing is one aspect contributing to excessive play, "it is the financial consequences of involvement in the activity that most strongly distinguishes between non-problem and problem play".* [10]

Table 4.4 – Results of Repeated Measures Model (Expenditure)

	60 Minute Pop-up		90 Minute Pop-up		120 Minute Pop-up		5 Minute Warning		150 Minute Cash Out		On Screen Clock		Cash Instead Of Credits	
	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2
COVARIATES:														
Change in revenue/minute (Pre to Post 3 Survey)	.008	.141	.002	.196	.003	.191	.016	.117	.000	.210	.000	.196	.007	.147
Average expenditure in Pre Survey (Regression Effect)	.000	.267	.000	.376	.000	.356	.000	.311	.000	.235	.000	.209	.000	.239
Liking of bill acceptor	---	---	.077	.071	.093	.064	---	---	---	---	---	---	---	---
Education level	---	---	.034	.101	.038	.096	---	---	---	---	---	---	---	---
Lose track of time	---	---	.026	.110	.030	.104	---	---	---	---	---	---	---	---
Lose track of money	.000	.240	.000	.374	.000	.372	.001	.210	.000	.230	.000	.189	.001	.202
Spend more time playing than desired	.002	.191	.000	.282	.000	.266	.003	.173	.003	.170	---	---	.005	.156
Keep a time and/or money budget	---	---	.024	.113	.027	.102	---	---	---	---	---	---	---	---
FACTORS:														
Exposure to RGF	.316	.021	**.007**	**.159**	**.011**	**.142**	**.021**	**.109**	**.013**	**.123**	.853	.001	.716	.003
Player Status (Low versus High Risk)	.765	.002	**.001**	**.244**	**.001**	**.242**	**.011**	**.129**	**.019**	**.112**	**.092**	**.059**	**.040**	**.087**
RGF * Player Status	**.057**	**.075**	**.005**	**.167**	**.004**	**.174**	.104	.055	.153	.043	.737	.003	.289	024

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[10] NS DOH 2000 Regular VL Players Follow-Up Study, Focal Research Consultants Ltd., Section: Financial Consequences of Play, p. 69.

Results: Expenditure

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	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2
COVARIATES:														
Change in revenue/minute (Pre to Post 3 Survey)														
	.008	.141	.002	.196	.003	.191	.016	.117	.000	.210	.000	.196	.007	.147
Average expenditure in Pre Survey (Regression Effect)														
	.000	.267	.000	.376	.000	.356	.000	.311	.000	.235	.000	.209	.000	.239
Liking of bill acceptor														
	---	---	.077	.071	.093	.064	---	---	---	---	---	---	---	---
Education level														
	---	---	.034	.101	.038	.096	---	---	---	---	---	---	---	---
Lose track of time														
	---	---	.026	.110	.030	.104	---	---	---	---	---	---	---	---
Lose track of money														
	.000	.240	.000	.374	.000	.372	.001	.210	.000	.230	.000	.189	.001	.202
Spend more time playing than desired														
	.002	.191	.000	.282	.000	.266	.003	.173	.003	.170	---	---	.005	.156
Keep a time and/or money budget														
	---	---	.024	.113	.027	.102	---	---	---	---	---	---	---	---
FACTORS: **Exposure to RGF**														
	.316	.021	**.007**	**.159**	**.011**	**.142**	**.021**	**.109**	**.013**	**.123**	.853	.001	.716	.003
Player Status (Low versus High Risk)														
	.765	.002	**.001**	**.244**	**.001**	**.242**	**.011**	**.129**	**.019**	**.112**	**.092**	**.059**	**.040**	**.087**
RGF * Player Status														
	.057	**.075**	**.005**	**.167**	**.004**	**.174**	.104	.055	.153	.043	.737	.003	.289	024

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[10] NS DOH 2000 Regular VL Players Follow-Up Study, Focal Research Consultants Ltd., Section: Financial Consequences of Play, p. 69.

Results - Pop-Up Messages

For the impact of the RGFs on changes in expenditure, there were significant main effects observed for all four of the pop-up messages and mandatory cash out. There were no changes in expenditure associated with use of the on-screen clock or liking of the cash display.

Risk for problem gambling also had a significant main effect in all models except for exposure to the 60-minute pop-up, where an interaction effect only was observed. In fact, for all of the four pop-up messages, including the 5-minute warning, there was an interaction between exposure to the RGF and risk for problem play.

Although on average the overall amount of money spent per session remained stable, there were a number of significant effects related to changes in expenditure between the Pre and Post 3 measures for those who switched over to the new machines.

Figure 4.9 – Effect On Expenditure Of Exposure To The 60-Minute Pop-Up Message – Low Risk Players

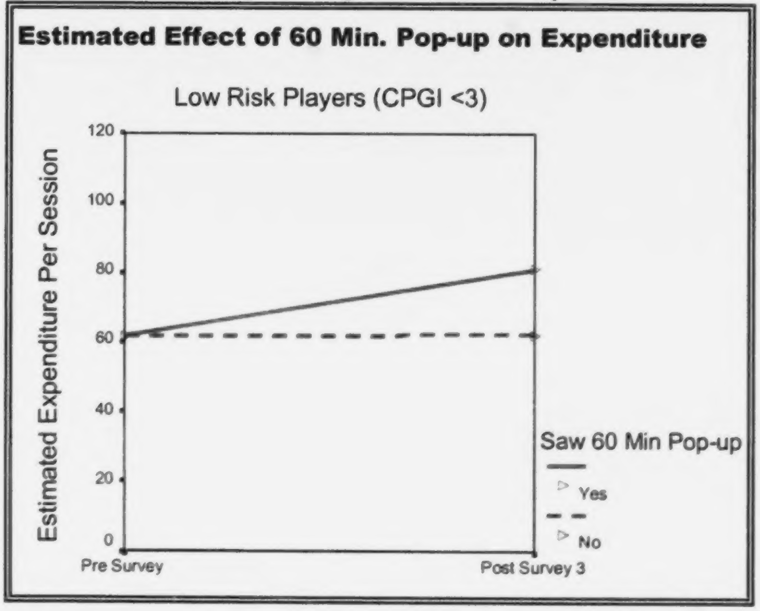
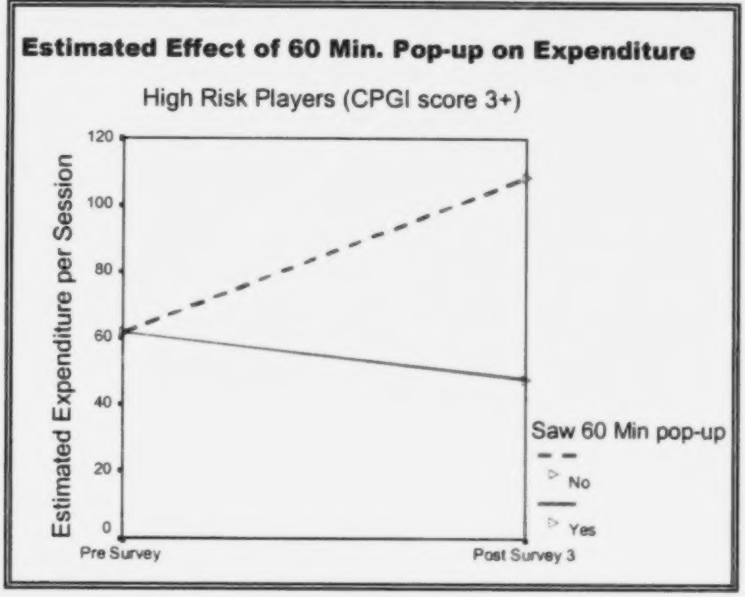


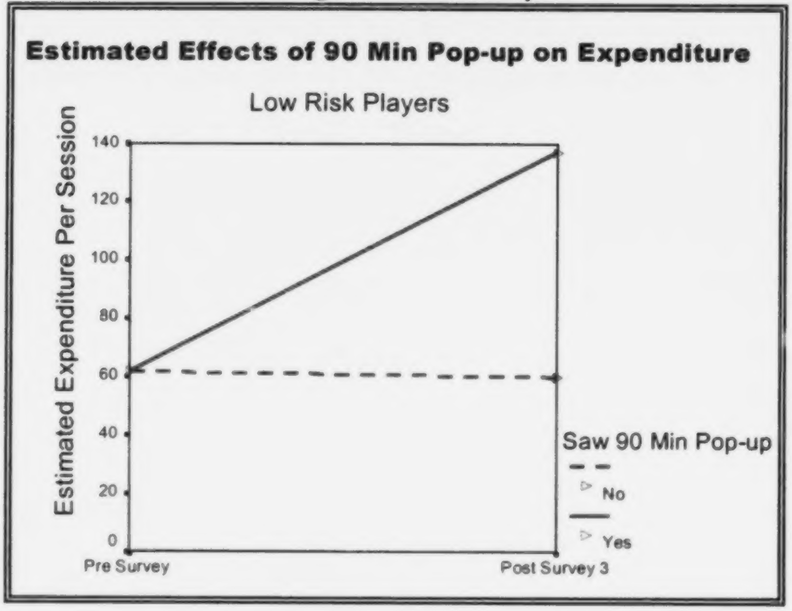
Figure 4.10 – Effect On Expenditure Of Exposure To The 60-Minute Pop-Up Message – High Risk Players



Exposure to the 60-minute message had a slight but significant effect in reducing the expenditures of high risk players. However, for those at high risk who did not see the 60-minute pop-up, expenditure increased on the new terminals.

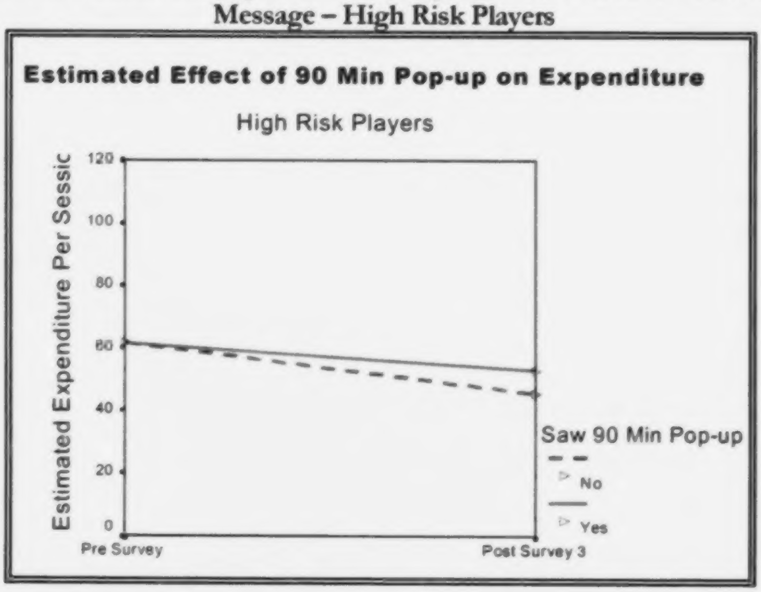
For the 60-minute pop-up, there was no appreciable influence on expenditure by the low risk players. However, those high risk players who saw the 60-minute message reduced how much they spent over the study period, while those high risk players who did not see the 60-minute message increased how much they spent ($p=.057$, $eta^2=7.5\%$).

Figure 4.11 – Effect On Expenditure Of Exposure To The 90-Minute Pop-Up Message – Low Risk Players



For all of the other pop-up messages and mandatory cash out features, exposure to these RGFs had no impact on expenditure by high risk players, but in all cases were significantly associated with increases in the amount spent among the lower risk players.

Figure 4.12 – Effect On Expenditure Of Exposure To The 90-Minute Pop-Up Message – High Risk Players



In contrast to results for the first message at 60-minutes of continuous play, the effects of the 90-minute pop-up almost exclusively influenced expenditure by low risk players. There was no change observed for high risk players, regardless of seeing the 90-minute message. However, low risk players who saw the message were more likely to have increased their expenditures ($p=.005$, $eta^2=16.7\%$).

In fact, this finding held true for all of the later messages a the 90-minute, 120-minute mark ($p=.004$, $eta^2=17.4\%$) and, to a lesser extent, the 5-minute warning at 145 minutes ($p=.104$, $eta^2=5.5\%$).

Figure 4.13 – Effect On Expenditure Of Exposure To The 120-Minute Pop-Up Message – Low Risk Players

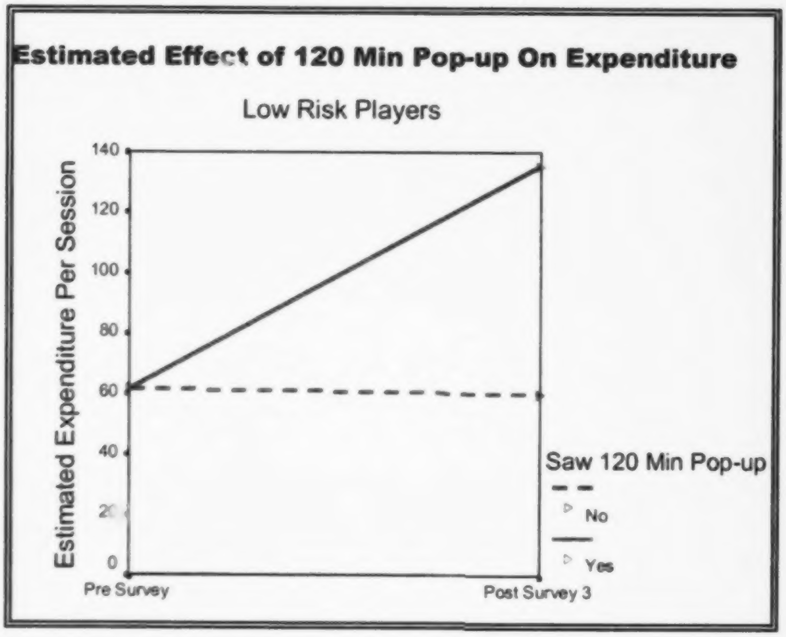


Figure 4.14 – Effect On Expenditure Of Exposure To The 120-Minute Pop-Up Message – High Risk Players

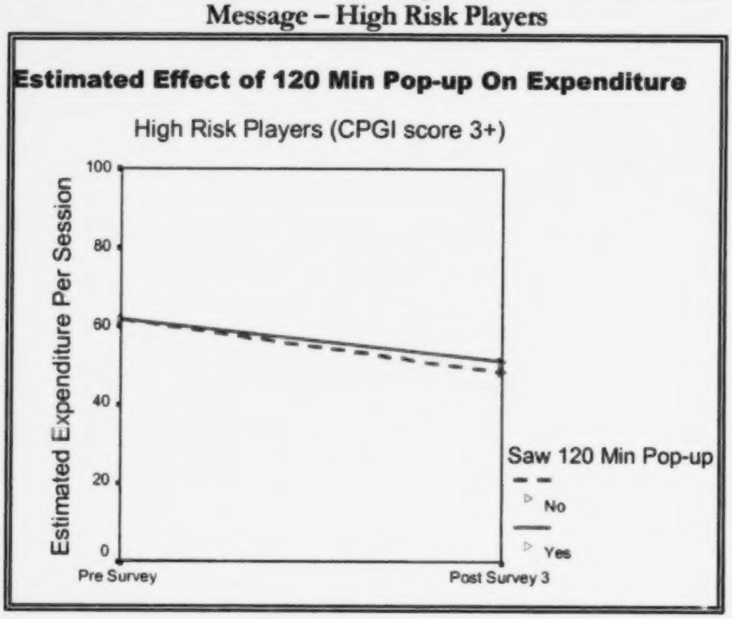


Figure 4.15 – Effect On Expenditure Of Exposure To The 5-Minute Warning Pop-Up Message – Low Risk Players

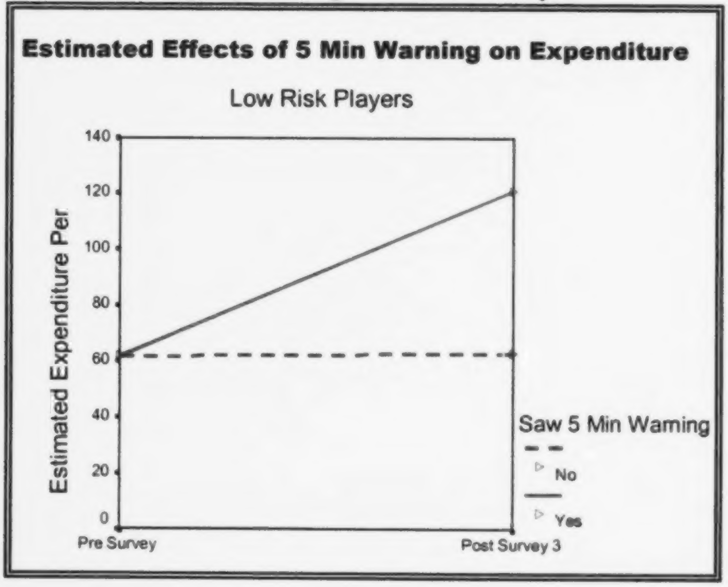
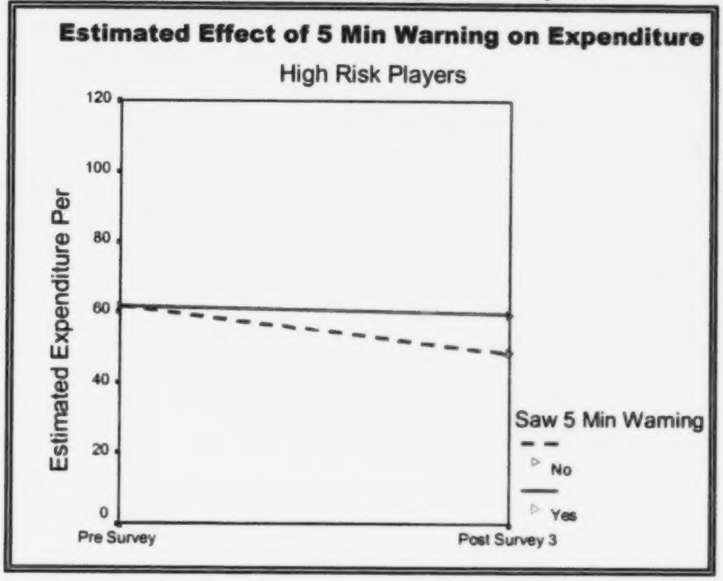


Figure 4.16 – Effect On Expenditure By Exposure To The 5-Minute Warning Pop-Up Message – High Risk Players



Contrary to results for low risk players, exposure to all pop-up messages beyond the 60-minute mark had no effect on any changes in expenditure for players at high risk for problem gambling.

With the exception of the 60-minute pop-up message, all of the other messages, including the mandatory cash out feature, were associated with increased expenditure specifically among the low risk players.

For high risk players, exposure to all the messages beyond the 60-minute mark for continuous play had no effect on any changes in expenditure.

The results for the low risk players likely reflect the contingency of only seeing the messages with extended continuous play. A typical play session for those at low risk for problem gambling tends to fall around the 60 to 90 minute mark, as compared to approximately 120 to 150 minutes for those at high risk. It will be recalled that there were no significant effects associated with changes in session length by risk for problem play. Therefore, the lower risk players who saw the later pop-ups were not necessarily playing for longer periods overall, but instead may have been more inclined to have played for a longer continuous period. Regardless of what is motivating the continuous play behaviour, it is apparent that the pop-up messages at the 90+ minute marks are insufficient to mediate this behaviour for either the low risk or high risk players. For the lower risk players, this lack of success is reflected in higher expenditure whereas there was no effect for those at higher risk, presumably due to their tendency to already be spending at their upper limits.

Results – Other RGFs & Machine Features

On-Screen Clock and Cash Display

Neither frequency of referring to the on-screen clock nor liking for the display of cash amounts instead of credits was significantly related to any changes in expenditure.

In the current study, use of the on-screen clock, bill acceptor and liking for the cash display did not have any significant impact in explaining changes in expenditure.

Bill Acceptor

While dislike of the bill acceptor is related to increases in expenditure ($p \leq .093$; eta^2=6.4% to 7.1%), there were no significant effects observed for the use of the bill acceptor on changes in expenditure over the course of the study. This cannot necessarily be interpreted as the bill acceptor having no impact on how much players spend each session, but rather that other covariates and factors in the present study are more effective in explaining the relative variance for changes in expenditure[11].

The study was specifically designed to assess the impact of the RGFs while controlling for the effects of other extraneous influences. Thus, the bill acceptor may be contributing in part to the increased rate of expenditure observed on the new terminals. However, this effect will be parceled out through the use of the change in amount spent per minute as a covariate. Certainly, change in amount spent per minute from the Pre to Post 3 survey is a significant covariate in all seven of the models for expenditure, and explains approximately 11.7% to 21.0% of the relative variance for changes in amount spent per session. Therefore, the higher rate of expenditure on the new terminals was not only associated with reductions in session length, but was also significantly related to increased expenditure for some players.

Other Covariates Related To Change In Expenditure

Average Amount Spent – Pre Session (Regression Effect)

As noted for session length, regression effect was a significant covariate in all expenditure models ($p<.000$, eta^2=20.9% to 37.6%).

Change In Amount Spent Per Minute (Pre to Post 3 Survey)

As noted above, the change in amount spent per minute (rate of expenditure) on the new terminals was significant in all the RGF models for expenditure ($p<.008$, eta^2=11.7% to 21.0%). This is not particularly surprising, given that the two measures are highly correlated (r=.418, p=.002). The correlation with session length was also high (r=-.352, p=.014), however, the relative variance explained by this covariate was higher for reductions in session length than for increases in expenditure in all seven models (11.7% to 21.0% versus 23.4% to 36.6% in session length models).

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[11] Use of the bill acceptor was only gathered for the last time played in each wave of the study, and only differentiated between use of bills only, coins only, or both during the session. It was noteworthy that despite the limitations, response to this feature was a marginally significant factor in explaining reductions in session length. However, changes in expenditure on the new terminals were less pronounced than those noted for length of play. Moreover, some of the effect of the bill acceptor was likely accounted for by the introduction of the change in amount spent per minute as a covariate.

Losing Track Of Money Spent While Playing

Those who most frequently lose track of money while playing are also more likely to have increased their expenditure after switching to the new machines. This covariate was highly significant in all of the models ($p \leq .001$, $eta^2=18.9\%$ to 37.4%).

Independently of other effects, losing track of money during play and spending beyond desired limits continues to result in higher expenditures among those included in the analysis. Thus, continuing efforts to assist these players, specifically managing the amount of money spent during play, will be necessary to achieve any desirable impact for expenditures.

This suggests that not only are the current RGFs ineffective in helping these players keep track of the amount of money spent during play, but they are actually spending more on the new terminals possibly in response to the new games, or as a consequence of other machine characteristics.

Spending More Time Than Intended

Frequency of playing beyond intended time limits is also significantly related to increased expenditure on the new machines ($p \leq .003$, $eta^2=15.6\%$ to 28.2%). Those Switchers who more often spend beyond desired time lengths also increased expenditure on the new terminals.

Other Covariates

The following covariates were only significant in the models for exposure to the 90-minute and 120-minute pop-up messages. This suggests that the following variables are influencing the effectiveness of the RGFs:

- Education Level ($p<.05$, $eta^2=9.6\%$ to 10.1%)
  It appears that there were some differences in how players responded based on level of education. Those with higher levels of education were more likely to have increased expenditure if they did not see the messages but, if exposed to the pop-ups, were more likely to reduce how much they spent than those with lower education levels.

- Liking Of The Bill Acceptor ($p<.10$, $eta^2=6.4\%$ to 7.1%)
  While the effect was weak, there was a significant relationship for the 90-minute and 120-minute pop-ups in relation to the bill acceptor. However, those who dislike the bill acceptor were more likely to have increased their expenditure, while those who liked the feature were more likely to have experienced slight declines or remained constant.

- Setting A Budget ($p<.05$, eta^2=10.8% to 11.3%)
  Setting a budget appears to be helpful for players in maintaining desired expenditure levels. However, if players did not set a budget and were not exposed to the RGFs, expenditure increased.

- Losing Track Of Time While Playing ($p<.05$, eta^2=10.4% to 11.0%)
  Similar to results for session length, the more often a Switcher lost track of time during play, the more likely it was for their expenditure to have increased.

Adjusted Model – Exclusion Of Covariates Correlated With Player Status

The covariates removed consisted of:

- Spending beyond desired time limits
- Losing track of time
- Losing track of money

Given that three of the eight significant covariates in the models for expenditure were significantly correlated with the risk for problem gambling, the final models for each RGF were rerun with these variables removed. This was done to test whether the effect of removing correlated covariates led to an improvement (or change) in the amount of relative variance explained by the factor *Player Status* (low versus high risk for problem play), and/or interactions with the RGF factors.

Table 4.5 – Results of Adjusted Repeated Measures Model (Expenditure)

	60 Minute Pop-up		90 Minute Pop-up		120 Minute Pop-up		5 Minute Warning		150 Minute Cash Out		On Screen Clock		Cash Instead Of Credits	
	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2
Exposure to RGF														
	.759	.002	.212	.034	.245	.029	**.008**	**.135**	**.009**	**.130**	.310	.021	.860	.001
Player Status														
	.387	.015	.390	.016	.362	.018	.476	.010	.591	.006	.868	.001	.699	.003
RGF * Player Status														
	.220	.031	**.050**	**.081**	**.041**	**.087**	.323	.021	.347	.018	.650	.004	**.067**	**.067**

Removing the significantly related covariates in almost all cases diminished the outputs of the model. In the previous version of the analysis, there had been a main effect observed by risk for problem play (player status) in six of the seven models, with significant interactional effects for the RGFs and player status in five of the seven models. Once the three variables correlated with risk for problem gambling were removed, there were no significant main effects related to risk and only three

- Setting A Budget ($p<.05$, eta^2=10.8% to 11.3%)
  Setting a budget appears to be helpful for players in maintaining desired expenditure levels. However, if players did not set a budget and were not exposed to the RGFs, expenditure increased.

- Losing Track Of Time While Playing ($p<.05$, eta^2=10.4% to 11.0%)
  Similar to results for session length, the more often a Switcher lost track of time during play, the more likely it was for their expenditure to have increased.

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	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2	Sig.	Eta^2
Exposure to RGF														
	.759	.002	.212	.034	.245	.029	**.008**	**.135**	**.009**	**.130**	310	.021	.860	.001
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Removing the significantly related covariates in almost all cases diminished the outputs of the model. In the previous version of the analysis, there had been a main effect observed by risk for problem play (player status) in six of the seven models, with significant interactional effects for the RGFs and player status in five of the seven models. Once the three variables correlated with risk for problem gambling were removed, there were no significant main effects related to risk and only three interaction effects. The interactions noted for the 90-minute and 120-minute pop-up messages were less pronounced than in the previous models. Thus, it appears that the three measures are predictive of changes in expenditure independent of risk for problem play. Moreover, including these measures as covariates in the model removed some of the "noise" in identifying effects related to risk for problem play.

The only new information gained was in relation to the on-screen clock and display of cash instead of credits. Although the relationship is not strong, it appears that liking of the cash display had a significant effect on change in expenditure ($p=.067$, $eta^2=6.7\%$). In fact, the effect was completely opposite by risk for problem gambling. Low risk players who liked the amounts displayed in cash rather than credits reduced expenditure slightly whereas those who disliked the cash display increased the amount spent. Conversely, high risk players who liked the cash display registered a slight increase and dislike was associated with lower expenditures.

In this case, the appeal of the cash display has slightly more negative associations for high risk players in terms of contributing to higher expenditures.

Regardless, a review of the results suggests that the models were more effective in addressing the study objectives and providing more meaningful information when all significant covariates are included.

Change in amount spent per minute on the new terminals had a significant impact for both change in session length and, to a lesser extent, expenditure. Thus, additional analysis was undertaken to determine if any player behaviours or characteristics were influencing this increase in the rate of expenditure.

Results: Change In Rate Of Expenditure

Identification of Change in Amount Spent Per Minute

Repeated Measure (Total Switchers Only) – Pre versus Post 3

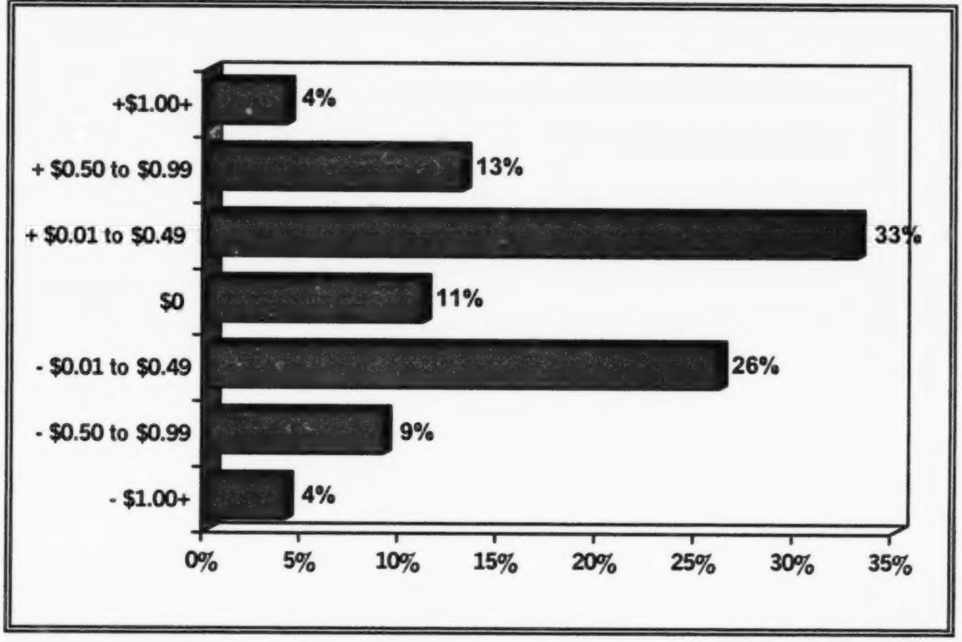
Session Length Analysis
Session length in Pre Survey - Sample mean = 135.85 minutes
Session length in Post 3 Survey - Sample mean = 113.67 minutes

Session Expenditure Analysis
Session Expenditure in Pre Survey - Sample mean = $61.58
Session Expenditure in Post 3 Survey - Sample mean = $60.00

Expenditure per minute in Pre Survey – Sample mean = $0.45/minute
Expenditure per minute in Post 3 Survey – Sample mean = $0.53/minute
Increase in expenditure per minute = 16.4%

At a total, aggregate level the expenditure rate per minute for those who switched over to playing the new terminals increased by 16.4%. However, this does not mean that all players had an increase in their rate of expenditure on the new terminals.

Figure 4.17 – Absolute Change In Amount Spent Per Minute For Individual Players (From Pre To Post 3)



On an individual basis, 38.2% of Switchers reduced their amount spent per minute, 10.9% remained the same and 50.9% increased the amount spent per minute on the new terminals. In fact when the results for individual players are considered, the average player in this sample only increased their revenue by $0.0192. However, calculating amount spent per minute based on results for individual players assumes that all players contribute equally to the rate of expenditure. This figure underestimates the effect of the machine on amount spent per minute, as illustrated below.

Table 4.6 – Illustration Of Effect Of Machine On Amount Spent/Minute

		Player 1	**Player 2**	**Avg/Player**
Pre survey	Total Expenditure	$60.00	$120.00	$90.00
	Total Minutes	60	120	90
	Rev/min	$1.00/min	$1.00/min	$1.00/min
Post 3 survey	Total Expenditure	$30.00	$180.00	$105.00
	Total Minutes	60	120	90
	Rev/min	$0.50/min	$1.50/min	$1.00/min
	% Change in Rev/Min	**-50%**	**+50%**	**0%**

On a machine basis, there was an increase in amount spent per minute of ≈16.4% for the new terminals.

In the example above, on a per player basis, there was no change in the average length of play, and average expenditure per minute. Nor is the distribution changed on a per player basis, with half the players declining in expenditure per minute and half increasing. However, because the person who plays for longer periods of time increased their expenditure rate, the overall rate of expenditure per minute did increase. This is found by using the total minutes played as the base for calculating amount spent per minute rather than the number of players. In this case, the average in the Pre survey is $180.00/180 minutes = $1.00/minute, and in the Post 3 survey $210.00/180 minutes = $1.17/minute, a 17% increase. **Therefore, on a machine basis, not on a per player basis, there was an increase in amount spent per minute, and an increase in revenue overall associated with switching play to the new terminals.**

Determinants Of Change In Amount Spent Per Minute

To determine the possible causes of changes to expenditure rates, regression analysis was conducted on both the total sample (n=136)[12] and for the sub-sample of Switchers (n=55). The total sample was examined using the behaviour and attitudinal variables listed earlier in the report, in order to identify any behaviours and characteristics that may be generally associated with changes in rates of expenditure.

For the total sample, only one variable proved to be predictive of changed expenditure rate: ***frequency of cashing out and then continuing to play*** (t=1.811, p=0.072). Those who more frequently cashed out during play were more likely to have increased their rate of expenditure over the course of the study. It will be recalled that in the impact analysis for changes in Session Length and Expenditure, this behaviour was associated with reductions in the amount of time spent playing, yet expenditure remained constant. Thus, cashing out and continuing to play was associated with players spending their money faster. One possible hypothesis for this finding would be that due to their play behaviour (cashing out) these players are less likely to be exposed to the pop-up RGFs and therefore are more likely to be affected by other aspects of the machines that might increase expenditure rates.

---

[12] There were 28 individuals for whom there was missing data for one or more of the variables included in the analysis and thus were excluded from the analysis.

Cashing out and running credits down to zero are typical behaviours that, in the case of the new terminals, reduce players' exposure to the RGFs and also are contributing to higher rates of expenditure. Spending beyond desired time limits also led to increased amount spent per minute on the new machines, suggesting that those who were not helped by the RGFs in managing their time were also more likely to spend their money faster. Changes and feature improvements are required if the RGFs are to have any appreciable effect in countering the impact of the increased rate of expenditure associated with these play characteristics.

The analysis was repeated using the sub-sample of those who switched to the new terminals. All of these players, by definition, had switched the majority of their play sessions from the old terminals during the Pre survey to the new terminals at the Post 3 survey. In this case, by focusing on only those who had switched their play to the new machines, the results were more informative. There were four variables that were significant predictors of change in the amount spent per minute:

Stepwise Regression Analysis predicting change in amount spent per minute between the Pre and Post 3 surveys (for Switchers only)

Coefficients

	Standardized Coefficients	t	Sig.
	Beta		
Frequency of cashing out and then continuing to play.	.424	3.197	.002
Frequency of spending more time playing VLTs than you would like.	.296	2.353	.023
Frequency of letting credits go down to zero before you put in more money.	.296	2.283	.027
Highest Level Of Education Completed.	.263	2.048	.046

a Dependent Variable: AREVMN14 Absolute increase in rev/min wave 1 to wave 4

The three behaviours listed above and level of education are the only player characteristics found to predict an increase in the rate of expenditure on the new terminals.

Both cashing out and running credits down to zero are behaviours that would reduce players' exposure to the pop-up messages and, thus, circumvent any benefits the messages may have in offsetting the influence of other machine characteristics on play (e.g., influence of the bill acceptor, appeal of the new games, quicker speed of play/credit accumulation).

Frequency of spending more time playing than wanted was also associated with an increased rate of expenditure. Thus, those players who were not assisted by the current RGFs in managing their time tended to be spending at faster rates on the new terminals, suggesting that changes or new approaches are required to counter this response.

The role of level of education is more complex. The results indicate that higher levels of education are associated with increased rates of expenditure on the new terminals. As noted in the Expenditure Model for exposure to the 90 and 120-minute pop-ups, those with higher education levels tended to report an increase for the amount spent each session but, unlike those with lower education levels, exposure to the pop-up messages was associated with declines in amount spent. Therefore, increasing exposure to the RGFs or other features designed to assist in time and money management may have a positive effect on such players.

MR&D Market Research & Development

ATLANTIC LOTTERY CORPORATION
VIDEO LOTTERY RESPONSIBLE GAMING FEATURE RESEARCH - FINAL REPORT

October, 2002

CONCLUSIONS & RECOMMENDATIONS

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Section 5

CONCLUSIONS & RECOMMENDATIONS

The results of the NS VL Responsible Gaming Features Research provide compelling evidence of the efficacy of machine-based interventions as part of an integrated responsible gaming strategy for video lottery gaming.

NS VL Responsible Gaming Features Research

In May 2001, the Nova Scotia Gaming Corporation (NSGC), through the Atlantic Lottery Corporation (ALC), began introducing new video lottery terminals with responsible gaming features (RGFs) in various sites across Nova Scotia. This initiated the first of three phases comprising the VLT Replacement Plan, scheduled to occur over a two to three year period. Phase 1 took place from May 2001 to January 2002, during which time 1000 new model terminals and approximately 400 upgraded older model terminals were rolled-out in specific locations and communities throughout the province.

> ***The responsible gaming features (on the new and modified video lottery terminals) are a first in North America and are intended to help discourage excessive play, having been designed to provide important reality checks and interruptions alerting players to the amount of time (and money) being spent during a specific play session.***

The changes introduced to the machines included new games and improved graphics, the addition of a bill acceptor and four responsible gaming features intended to assist players in managing the amount of time and money spent while playing the games:

- Permanent on-screen clock denoting time-of-day;
- Display of betting activity in cash amounts rather than credits;
- Pop-up reminders of time spent playing after 60, 90 and 120-minutes of continuous play;
- 5-minute cash out warning at 145 minutes of continuous play and mandatory cash out at 150 minutes.

VL RGF RESEARCH - PURPOSE

- Assess awareness
- Assess effectiveness
- Assess potential improvements

An important component of the VLT Replacement Plan was an evaluation of the impact of the responsible gaming features (RGFs) during the introduction of the new terminals, in order to:

- assess awareness of and exposure to the features;
- determine the effect of the RGFs on player behaviours, perceptions and attitudes;
- identify what, if any, changes or improvements are recommended to enhance the effectiveness of the features in mitigating excessive play.

The research plan to evaluate the RGFs was also multi-phased, consisting of both qualitative and quantitative research methods.

RESEARCH PROCESS

QUALITATIVE

- Observed Play
- Focus Groups (May 2001)

QUANTITATIVE

- Questionnaire Design (May 2001)
- On-site Intercepts (May 2001)
- Pre Survey (June 2001)
- Post 1 Survey (Sept. 2001)
- Post 2 Survey (Nov. 2001)
- Post 3 Survey (Feb. 2002)
- Analysis (March - Aug. 2002)

Qualitative Research – Preliminary Product Response Phase

The Preliminary Product Response Phase consisted of focus groups with Regular VL Players, conducted by Focal Research Consultants Ltd. during May 2001. In total, four focus groups were undertaken, two with Non-Problem Regular VL Players and two with Resolved and Current Problem Players, comprising 22 participants overall. The qualitative phase of the research was considered an integral part of the overall research process as there are many unknowns leading into the quantitative phase of the research about how the players would interact with the RGFs. Therefore, preliminary information obtained during the qualitative phase of the research was critical in providing the insight necessary to ensure the right questions were asked in the quantitative stage of the research.

Over a two-hour period, participants were observed playing on six of the new terminals setup on-site at Focal Research. Following play of the new machines, all participants then took part in in-depth discussion groups surrounding:

- initial reactions to the new terminals;
- reactions to each RGF;
- influence on perceptions, attitudes and play behaviours;
- influence on excessive play.

The information obtained was used to develop the questionnaire and refine research design in preparation for the pre-test and quantitative phase of the research.

Quantitative Research – Pre/Post Return to Sample Design

To address the information objectives of the study, a pre/post return-to-sample methodology was adopted. In May 2001, Regular VL Players were intercepted on-site at 81 qualified VL locations in select communities throughout the province, and recontacted by telephone to screen for eligibility. The detailed play behaviours, attitudes and perceptions for 164 Regular VL Players were benchmarked in June 2001 and tracked in three follow-up surveys, at approximately two-month intervals, during the course of the introductory period for the new terminals. The overall response rate for the study was 69.2% with a drop off rate of 30.8% over the four waves of the study. The data was examined for total players and by adoption of regular play on the new terminals (Adopters versus Non-Adopters) as well as risk for problem gambling (CPGI: No Risk, Low Risk, Moderate Risk and Problem Play).

Play of New Terminals

Type of Player	Description	Sample Size	% of Players (n=164)
Adopter	By the final Post 3 Survey (Feb. 2002) majority of times played in the last month were on the new terminals (75%+ of total times played)	75	46%
Non-Adopter	By final Post 3 Survey continued to play mainly on the older model terminals	89	54%

Risk For Problem Play

Player Status (based on CPGI classification)	CPGI Score	Sample Size	% of Players (n=164)
No Risk	0	47	29%
Low Risk	1-2	48	29%
Moderate Risk	3-7	39	39%
Problem Player	8+	30	18%

Section 5 summarizes the key findings emerging from the research process, including insights gained during the qualitative phase of the study (player observation and focus group testing) in order to:

- **assess the relative performance of the four RGFs in influencing player behaviours, and;**
- **submit recommendations for potential changes, modifications and/or product enhancements to improve the effectiveness of the features in mitigating excessive VL play and in assisting players in managing time and money spent on the new terminals.**

Results:

General Playing Patterns

Key Findings For Total Participants (n=164)

- *The new terminals tended to attract those players who were already more involved in video lottery prior to the introduction of the new machines, but were equally likely to be have been adopted by players at Low, Moderate or High risk for problem gambling. Only those at no risk were less likely to have taken up play on the new machines.*

KEY CHANGES ASSOCIATED WITH PLAY ON NEW TERMINALS

- Reduction in session length
- Improvements in tracking time and money spent
- Improvements in staying within desired time and money limits
- Increase in rate of expenditure on new machines (faster speed of expenditure)

Trial of the new terminals was high among all participants (84%). However, those who, at the end of the trial period, were playing most often on the new terminals (Adopters) tended to have been playing more frequently and spending more time and money on video lottery before the new terminals were introduced. On average, Adopters played more often each month (≈9 times versus 7 times), for longer periods of time (≈135 minutes versus 93 minutes per session), and on average spent approximately twice as much money per month on video lottery (median=$385 versus $180) than those who continued to play mainly on the old terminals. No Risk players were least likely to have taken up regular play on the new terminals (25%) with no difference in adoption rates among the Low, (50%) Moderate (49%) or Problem Players (66%).

Those adopting play of the new machines were also more inclined at the start of the trial period to be spending beyond desired time and money limits, and more often losing track of time or money as compared to those who continued to play mainly on the older models. **This suggests that simply introducing new terminals will likely attract those who are most likely to derive benefit from any measures intended to assist players in managing their VL play.** It is the appeal of the new games that is the primary factor motivating play among all players.

- ***Reduction in session length (amount of time spent playing)***

There was a significant decline in session length associated with play on the new terminals over the course of the study (≈135 minutes to ≈116 minutes, t=1.972 p=.056). On average, those players who had adopted play on the new terminals by the final wave of the study (February 2002), reported shorter sessions on the new terminals as compared to their length of play during the Pre Survey measures in June 2001. There were no changes in length of time spent playing among any of the player risk groups or for those who continued to play primarily on the older model terminals.

- *Expenditure remained stable*

Despite a reduction in the amount of time spent playing on the new terminals, there were no significant changes in the average amount of money spent each time played, within any of the player groups or at a total level. Expenditure estimates based on monthly behaviour remained stable over all waves of the study.

- *Change in Rate of Expenditure*

On a machine basis, not a per player basis, there was an increase observed in rate of expenditure (amount spent per minute). Consequently, an overall increase in revenue associated with the introduction of the new terminals is expected.

When the combined results for time and money spent were examined, it became clear that there was an overall increase in the amount of money spent per minute among plays on the new terminals. This means that the rate of expenditure was higher on the new machines than on the older terminals. This increase is related to potential changes in the way the new machines are played, causing players to spend at different rates while gambling, thus affecting both expenditure per session and length of session.

- *Reductions in specific behaviours associated with increased risk for problem gambling*

Following the introduction of the new machines, on average, the percent of times players **reported losing track of time and money, or played beyond desired time limits** declined for all players, but most strongly among those taking up regular play on the new terminals (Adopters).

Only for Adopters was there a significant decline in the average percent of time they reported **spending more money than wanted during play** (63% to 50%, t=2.820, p=.006). "Overspending" did not change in any of the other player groups. Despite the improvement, Adopters still spent beyond desired money levels more frequently than those who continued to play on the older model terminals (50% versus 31%), thus, there is continued room for improvement.

- *Stability of play behaviours that have implications for exposure to and use of RGFs*

For the most part all other play behaviours appear to be fairly entrenched and remained highly stable over all waves of the study. Some of these behaviours, in particular cashing out and continuing to play, running credits down to zero before putting in more money and chasing losses, have implications for risks for problem gambling and exposure to the new RGFs.

These behaviours will either reset the internal clock for the pop-up reminders (cashing out, running credits to zero) precluding exposure to the message or, in the case of extended continuous play, may override the effectiveness of any messages in motivating stopping (chasing behaviour).

- *Characteristics of high risk play suggest the need to consider expanding the scope of the current RGFs in order to achieve desired impact for excessive gambling*

There are certain characteristics and behaviours that distinguish problem gamblers and those at high risk for developing problems with their VL gambling. This suggests that in order to maximize the potential value of the current RGFs, focus of the features can be broadened to target a range of play behaviours occurring at different levels of risk. Such play behaviours for consideration include:

- Frequency of play;
- Total length of time spent playing;
- Amount of money spent per session;
- Frequency of losing track of time or money while playing;
- Frequency of spending more time or money than wanted;
- Frequency of cashing out then continuing to play;
- Frequency of chasing losses;
- More planned play;
- Longer continuous play;
- Less effective use of budgeting;
- More games played per session;
- Tend to stop when run out of money;
- Games outcomes more likely to result in a loss position.

Impact Analysis of RGFs on Session Length and Expenditure

The RGFs on the new and modified terminals are designed to assist players in managing the amount of time and money being spent while they are playing video lottery. **Thus, the interventions are intended to impact players' behaviours on a per session basis, ideally leading to reductions in the length of play and amount spent for those involved in excessive gambling (i.e., spending beyond desired and/or affordable play levels), while having minimal impact for those already playing at responsible or "low risk" levels. Therefore, tracking time and money spent on a per session basis was a critical requirement in the current study.** In fact, the primary purpose of the research was to attempt to isolate and identify the impact of the RGFs in effecting change in session length and expenditure (See Section 4 - Impact Analysis of RGFs).

Analysis

In order to isolate the impact of the RGFs on time and money spent, it was necessary to restrict analysis only to those players who had switched from playing the older model terminals during the Pre Survey to play of the new terminals by the final Post 3 Survey. This means that all the benchmark measures for these players would be associated with play on the old terminals and all the Post 3 measures would reflect play mainly on the new terminals. This allows for testing of any changes that can be directly related to the new terminals and/or exposure to the RGFs, essentially positioning these "Switchers" as the test group (n=55). The remaining participants (n=109) did not switch play from any one type of terminal to the other over the course of the study and therefore these Non Switchers could be used as the control group.[1] Any changes observed within this group would be attributable to factors other than having switched over to playing the new terminals.

Analysis of this data was conducted using the Repeated Measures ANOVA with covariates using the General Linear Model (GLM) module of SPSS 10.0.5 and regression analysis. The **dependent variables** in the models were **length of session** and **session expenditure**, from the Pre survey and Post 3 survey. The **independent variables** (factors) in each model were **exposure to the RGF** (one model per RGF) and **risk for problem play** (low versus high risk players). Additional analysis was undertaken to specifically examine use of the bill acceptor and use of the on-screen clock in relation to other behaviours, such as losing track of time.

It should be noted that the results are primarily based on how a subset of players (34%) responded after switching to the new machines. While the results are of value in informing on-going planning for the VLT responsible gaming program, there may be differences in how all players respond once they no longer have the option of playing the older model terminals.

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[1] It should be noted that due to delays in project scheduling, 20 participants in the study had already adopted play of the new terminals during the Pre-Survey and continued to play primarily on the new machines throughout the study. Therefore, the Pre and Post 3 measures for these participants could not be used to detect any changes associated with switching play from the old or new terminals.

Key Findings – Impact Analysis (for those who switched to play of the new terminals n=55):

- *Changes in time and money spent*

Session Length Analysis
Session length in Pre Survey - Sample mean = 135.85 minutes
Session length in Post 3 Survey - Sample mean = 113.67 minutes

Change in amount spent per minute on the new terminals had the greatest impact for change in session length and, to a lesser extent, expenditure.

Session Expenditure Analysis
Session Expenditure in Pre Survey - Sample mean = $61.58
Session Expenditure in Post 3 Survey - Sample mean = $60.00

Amount spent per minute in Pre Survey – Sample mean = $0.45/minute
Amount spent per minute in Post 3 Survey – Sample mean = $0.53/minute
Increase in amount spent per minute = 16.4%

At a total, aggregate level the expenditure rate per minute for those who switched over to playing the new terminals increased by 16.4%.

- ***Exposure to the 60-minute pop-up reminder was associated with a small yet significant reduction in session length and a decrease in expenditure among higher risk players***

The 60-minute pop-up reminder was the only RGF to have had significant positive impact on session length or expenditure. If a player saw the 60-minute pop-up, regardless of risk for problem gambling, there was a decline in session length ($p=.081$; $eta^2=6.9\%$). The effect was weak and only explained approximately 6.9% of the relative variance for the change in session length but nonetheless the feature had a positive influence on player behaviour, suggesting there is further potential for enhancing the effects of behaviour-triggered interventions.

In terms of expenditure, there was a significant interaction effect observed for the 60-minute pop-up and risk for problem gambling ($p=.057$; $eta^2=7.5\%$). Those high risk players who saw the 60-minute reminder were more likely to reduce expenditure, however, for high risk players who did not see the 60-minute reminder during play, expenditure on the new terminals went up.

- ***Use of the on-screen clock was associated with improvements in keeping track of time and playing within desired time limits, although (as yet) it had no effect on session length or expenditure***

There were both significant main effects ($p=.002$; $eta^2=5.8\%$) and an interactional effect with risk for problem gambling ($p=.018$; $eta^2=3.5\%$) associated with the use of the on-screen clock and improvements in control over time spent playing the machines. In general, players who referred to the clock most often during play were more likely to have reported improvements in keeping track of time.

To a lesser extent, high risk players who report making frequent use of the on-screen clock while playing reduced their frequency of spending beyond desired time limits. There was no change in behaviour for those high risk players who did not refer to the clock as frequently during play, nor for low risk players in general.

- ***There are other play behaviours and machine characteristics that had a significant effect for changes in session length and expenditure on the new terminals and, in some, cases influence the effectiveness of the RGFs***

In order to identify opportunities to enhance the effectiveness of the RGFs, it is important to understand and address the role of other behaviours or characteristics in affecting the influence of the RGFs.

Table 5.1 – Other Significant Characteristics/Behaviours Associated with Changes in Time or Money Spent on the New Terminals

CHARACTERISTIC	SESSION LENGTH	EXPENDITURE
Increase in rate of expenditure	***	***
Frequency of cashing out and continuing to play	***	---
Frequency of losing track of time	*	**
Frequency of losing track of money	---	***
Keeping a budget for play	**	**
Frequency of spending more time playing than desired	---	***
Frequency of play on the new terminals	*	---
Liking of bill acceptors	---	*
Use of bill acceptors	*	---
Frequency of running credits down to zero	*	---
Area of residence	**	---
Age	*	---
Education Level	---	*

--- = $p>0.10$; * = $p<0.10$; ** = $p<0.05$; *** = $p<0.01$

The above table presents a summary of behaviours and characteristics, other than the RGFs, that had a significant effect in explaining changes in the amount of time or money spent on the new machines.

IMPACT OF RGFS ON KEY MEASURES

- Exposure to 60-minute pop-up related to decline in session length and reductions in expenditures by high risk players
- Lack of exposure to 60-minute pop-up related to an increase in expenditure by higher risk players
- Frequency of referring to on-screen clock related to improvements in keeping track of time and playing within desired time limits

Factors for decrease in session length:

- Increase in rate of expenditure (spending money faster)
- Cashing out and continuing to play
- Keeping a budget
- Use of bill acceptor
- Rural players
- Younger adults

Factors for increase in session length:

- Not setting a budget
- Losing track of time
- Playing new machines more often
- Running credit down to zero
- Older adults

- **The change in rate of expenditure on the new machines** exerted the greatest influence in reducing session length ($p=.000$; $eta^2=23.4\%$ to 35.5%), explaining 4 to 5 times the relative variance in the decrease for time spent playing than the 60-minute pop-up reminder. At the same time, this characteristic also played a significant role in influencing increases in the amount spent per session on the new terminals. The effect of this machine characteristic on expenditure was less pronounced ($p\leq.016$; $eta^2=11.7\%$ to 19.6%), primarily due to the fact that the increases for money spent are limited by other factors such as the availability of funds for playing purposes. Regardless, the increase in the rate of expenditure was a significant contributing factor for those who did increase the amount they were spending after switching to the new terminals.

- **Frequency of cashing out and continuing to play** is strongly related to reductions in length of time spent playing on the new terminals ($p\leq.005$; $eta^2=16.4\%$ to 23%) but did not directly contribute to any changes in expenditure. However, this is one of three behaviours that was found to be predictive of an increase in the amount spent per minute on the new terminals, along with frequency of spending more time playing than desired and running credits/cash down to zero during play. Cashing out implies that there has been a win or enough accumulated cash or credits to warrant redemption. While many players use this as a control mechanism to regulate the amount of money spent, this behaviour is also leading players to spend their money more quickly on the new terminals.

- **Frequency of losing track of time during play** was associated with both increases in session length ($p\leq.054$; $eta^2=8.3\%$ to 9.6%) and increases in the amount spent when playing on the new terminals ($p\leq.030$; $eta^2=10.4\%$ to 11%). Thus, continuing to find ways to improve players' awareness of passing time is indicated.

Factors for increase in expenditure:

- Losing track of money spent
- Increase in rate of expenditure (spending money faster)
- Losing track of time
- Not setting a budget for play
- Dislike of bill acceptor

- **Frequency of losing track of money during play** is the strongest contributor to increases in expenditure on the new terminals ($p\leq001$; $eta^2=18.9\%$ to 37.4%). Assisting players in money management should continue to be a priority.

- **Keeping a budget for play** has implications for the effectiveness of the RGFs in relation to time ($p\leq.03$; $eta^2=10.4\%$ to 12.3%) and money spent ($p\leq.03$; $eta^2=10.2\%$ to 11.3%). If a player keeps a budget for VL play there was a significant decline in expenditure, regardless of whether or not he/she was exposed to the 60-minute pop-up reminder. Thus, playing to a budget negates any influence exerted by an increase in speed of expenditure. However, for those who do not set a budget for play and were not exposed to the RGF, both session length and expenditure increased. Thus, those who do not set a budget for play on the new terminals are vulnerable to spending more time and money, particularly if they play in such a manner that they will not be exposed to the pop-up reminders. Budgeting is a critical area for player support as setting and adhering to money limits is a key distinction between problem and non-problem play.

- **Frequency of spending more time playing than desired** was strongly related to increased expenditure on the new machines ($p \leq .003$; $eta^2=15.6\%$ to 28.2%) but not increased session length. These players appear to have spent similar amounts of time playing on the new terminals as the old and, given their tendency to play over extended periods, were vulnerable to spending at a higher rate on the new terminals. Similar to results for general budgeting, helping players to set and keep reasonable play limits is indicated as a priority for responsible gaming.

- **Liking and use of the bill acceptors** did have a slight effect on expenditure and length of play. The current study was not designed to evaluate the impact of the bill acceptors, as the primary focus of the research was intended to be the RGFs. However, players actually rated the bill acceptor as more effective (31%) than the majority of RGFs (pop-up messages (18% to 26%) and mandatory cash out (19%)) in assisting them to moderate their expenditures. Liking is also generally high for this new option (52%), especially among Problem Players (60%) and those adopting play on the new terminals (60%). It was possible to conduct some post hoc analysis to assess the impact of this feature. Results should not be considered conclusive but there is evidence that use of the bill acceptor is contributing to declines in session length ($p=.108$; $eta^2=12.3\%$), while how much players like or dislike the bill acceptor is related to changes in expenditure ($p \leq .093$; $eta^2=6.4\%$ to 7.1%). It may be reasonable to identify options for countering any negative effects from use of the bill acceptor with initiatives designed to help players with budgeting. Some players already appear to be deriving benefit from the bill acceptor for budgeting purposes. Thus, additional efforts focusing on helping players to set and keep a budget may be of particular benefit for those for whom the bill acceptor is leading to faster rates of expenditure.

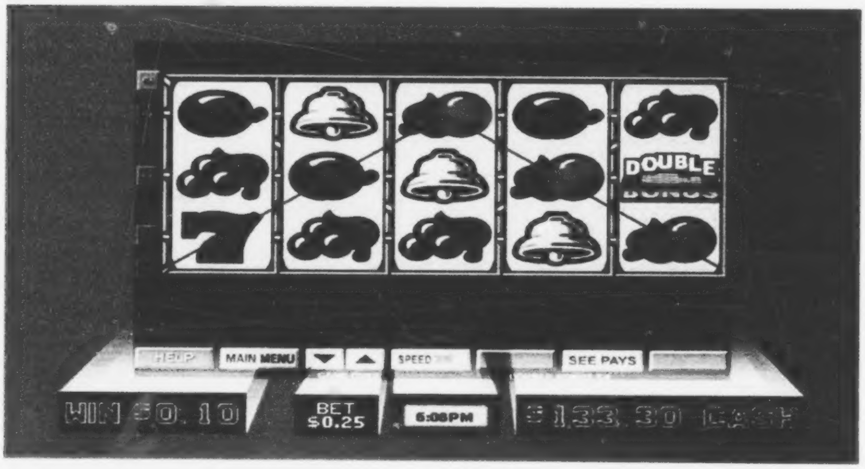
- **Frequency of running credits down to zero before putting more money into the machine** was one of the other behaviours identified as a key behavioural determinant for an increased rate of expenditure on the new terminals ($beta=.424$, $t=3.197$, $p=.002$). Ultimately, this behaviour leads players to spend money more quickly because it prolongs play on the terminals. It is also a behaviour used more often by Problem Gamblers (7.4 times versus 4 to 5 times for other players).

- Session length consistently declined for those living in rural areas of the province whereas urban players were equally likely to have gone up or down in response to the increase speed of expenditure. Regardless, at this point in time, the net effects of these behaviours resulted in no impact on expenditures.

Evaluation of the RGFs:

To assist NSGC and ALC in on-going planning for the VLT Replacement Initiative, a summary of key study findings related to each of the four RGFs evaluated in the Nova Scotia VL Responsible Gaming Feature Research was prepared. The summary includes a discussion of the implications of study results for each feature. Potential recommendations emerging from the research are also presented for consideration.

On-Screen Permanent Clock



Goal:
To provide players easy access to a clock as a permanent reference for time-of-day during play, ideally reminding players how long they have been on the machine and to provide added value by working in tandem with the pop-up reminders in helping players keep track of time.

Description:
While simple in nature, this feature is intended to address a common problem associated with excessive gambling: losing track of time while playing. Thus, a clock (displaying actual time of day) is permanently located on the VL screen in order to remind the player of their play duration and to help players keep track of passing time. It is speculated that the permanent on-screen clock may also be effective in conjunction with the pop-up messages, with players potentially referring to this "time of day" reminder after exposure to the pop-up reminders.

Key Observations Related to On-Screen Clock:

- The majority of Regular VL Players taking part in the study (80%) had convenient access to "time-of-day" during play either by wearing a watch (65%) and/or being able to see a clock on location while playing (44%).
- Awareness of the on-screen clock was high (87% to 95% among the segments).
- The permanent clock is the most preferred RGF by all players (57% to 65%) especially those who took up play on the new terminals (72%). This feature also engenders the lowest levels of negativity, with under 20% of any player group indicating dislike for the clock.
- In terms of effectiveness in helping players to manage time and money spent, the on-screen clock (39%) is generally rated second to the cash display (46%) but is perceived as most effective by those who adopted play on the new terminals (46%).
- 22% of participating Regular VL Players (37% of Adopters) frequently or continuously refer to the clock while playing on the new machines, especially the adopters who are most familiar with the feature.
- 31% of participating Regular VL Players never referred to the clock, primarily those least familiar with the new terminals (Non-Adopters: 46%).
- Likelihood of referring to the clock during play does not increase with session length, but instead is related to frequency of playing on the new machines (it is how often someone plays rather than how long they play that is currently more strongly associated with use of the on-screen clock).
- Use of the on-screen clock was not found to be significantly related to any changes in session length or expenditure among those who switched from playing the old to new terminals.
- In additional analysis, use of the feature had a small but significant impact for improvements in keeping track of time and money spent, especially by those at higher risk for problem play ($p \leq .01$; eta^2: 3.5% to 5.8%).

The on-screen clock generated high awareness and liking among all players, with perceived effectiveness of the feature rated second only to the cash display.

Use of the clock RGF was associated with improvements in tracking time and money spent, but lack of familiarity and regular use of the feature is impacting effectiveness.

Implications:

All players have similar access to sources for time-of-day while playing the machines, either on their own wrist or at the location. Yet, losing track of time while playing steadily increases with risk for problem play, ranging from 16% of the times played to 53% and 62% for Moderate and High Risk Players, respectively.

Moreover, losing track of time is also associated with spending more time than desired when playing the games ($r=.477$; $p=.000$).

This suggests that, despite easy access to time-of-day, as players become more involved in the games and VL activity (e.g., higher risk play behaviours), they are less inclined to turn their attention away from the screen to reference any sources for tracking time. Thus, placement of a clock feature on the screen is positioning time-of-day in the optimum location for player reference. The convenience and practicality of the feature is reflected in the high liking and effectiveness ratings attributed to the on-screen clock by players in all segments. However, variations in the actual use of the feature during play suggest that modifications are required to enhance the potential benefits of the feature in influencing player behaviours.

For example, use of the on-screen clock during play was associated with small yet significant improvements in keeping track of time and playing within desired time limits, particularly for higher risk players. It will be recalled that those who more often lost track of time while playing on the new terminals were also more likely to have increased expenditures and session length. Currently, only 21% to 28% of higher risk players are engaging in frequent use of the clock when playing on the new terminals, which is similar to results for all players (26%). Therefore, increasing utility of the feature should improve the potential benefits to the players in using time-of-day information as a tool for time, and ultimately money, management.

Efforts to draw players' attention to the feature should assist in helping time-of-day information cut through the clutter of screen activity and enhance the use of the on-screen clock as a tool for time awareness and management.

Familiarity with the new terminals tends to be the principal factor facilitating use of the clock. Those who have taken up regular play on the new terminals (Adopters) are over twice as likely as Non-Adopters to make frequent use of the clock (37% versus 14%). In fact, almost half (46%) of those who typically play on the old model terminals never referred to the on-screen clock when playing on the new terminals.

There are many other changes competing for the player's attention on the new terminals, including new graphics and games, cash display rather than credits and the bill acceptor. While players are aware and have duly noted the availability of a permanent on-screen clock, this feature is easy to overlook especially during the excitement of play. Hence, the lack of association between use of the feature and length of play (there is no relationship between how long an individual plays and frequency of referring to the clock). Thus, efforts to periodically draw players' attention to the feature should assist in helping time-of-day information to cut through the clutter of the screen activity. In addition, opportunities to tie time-of-day to the player's actual play experience may serve to heighten greater awareness of passing time.

While the current technology does not allow the machine to specifically track time spent playing on an individual basis, there is an opportunity to increase the value of the on-screen clock by allowing players to "pre-set" length of play. The machine would then trigger a signal at a player-specified time (e.g., player starts at 1:00 p.m. and wishes to be alerted one hour after play). For those who are trying to more aggressively manage play, it may be possible for players to pre-set a mandatory cash out or screen message to occur after a designated time period as a self-directed prompt or reminder (e.g., player wants to play for one hour or until they have spent their budgeted amount of money). Such a modification may also have benefits as a tool for those engaged in more formalized efforts to assist players in controlled play approaches to problem gambling resolution (e.g., clinicians, counselors, other self-help initiatives).

Recommendations

- **Ensure permanent on-screen clock has a permanent on-screen location.**

By always locating the clock in the same place on the screen, regardless of the game or terminal used, players can become familiar and more adept at using the feature. Having the on-screen clock in a permanent location means that players will always know where to find it, as it is unlikely they will go to any effort to "look" for it during play (as is evidenced by the lack of use of other easily accessible sources for time-of-day). Ideally, the location should be tied to other features regularly referred to by players, most likely the bet display, to improve the likelihood of it being seen and used. However, it was noted in the qualitative testing of the new machines, during the Preliminary Product Response Phase of the study, that some players favoured a unique location for the clock located well away from the on-screen interactive buttons.[2]

ON-SCREEN CLOCK RECOMMENDATIONS

- Ensure a permanent location
- Make feature more prominent/distinctive
- Consider option to make feature interactive

- **Make the on-screen clock more prominent/distinctive to alert players to passing time.**

The VL screen is busy with lots of movement and activity, therefore the clock is unlikely to cut through the clutter in reminding players of time-of-day. Feature enhancements such as flashing, background changes and/or recognizable tones/chimes can be scheduled to occur at regular intervals (e.g., every 15 minutes). Similar to other time pieces that "announce" time-of-day to those who are not necessarily "watching the clock", the flash/chimes will alert the players to passing time. Player testing can determine whether a regular schedule consistent with other familiar clock characteristics (e.g., grandfather clock, cuckoo clock denoting time with recognized chimes/tunes at quarter hours, half hours and on the hour) is more effective than a random schedule. It may be that over time, those who play for longer periods will become inured to the regular flashes/chimes and, thus, a more random approach may be indicated.

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[2] If the on-screen clock was also modified to become a more interactive feature, moving this RGF to a distinct or unique permanent home may be a better solution to avoid inadvertently activating other interactive features on-screen. In combination with other modifications which periodically bring the on-screen clock into greater prominence, a separate location for the clock should not detract from its use. Player testing can confirm the efficacy of these assumptions.

- **Consider using the time-of-day clock option as a vehicle for players to actively set time limits (self-directed prompts or reminders).**

Allowing players the option to pre-set length of play, similar to an "alarm" clock, may provide assistance to those wishing to adhere to a time limit (e.g., Message: "It is [2:00 p.m.] – Your selected time to stop playing" or "you have something else you want to do" – Press YES to cash out and stop, NO to continue.") If a "continue" response is selected, options can be included to provide a follow-up message to confirm the decision to continue (e.g., Message: "It is [2:15 p.m.] – Do you (still) wish to continue?"). While few players would be likely to use such a feature, it may be most applicable for those actively seeking to moderate their activity, particularly as part of assisted programs for controlled gambling. Missing important events or other time-related deadlines and obligations is often a consequence of high-risk involvement in VL gambling.[3] Thus, such an option could also allow players to selectively set an alarm to remind them of their intention to stop or be elsewhere.

Cash Display

Goal:
Highlights the actual dollar amounts a player is spending, to make players more aware of how much money they are wagering.

Description:
All betting activity by the player is displayed in dollar amounts rather than credits. Currently, in North America, VLTs show the value of money inserted, wagered and any winnings in the form of credits only. While most players can calculate the dollar amount based on their credit bank, it has been hypothesized that the use of credits disassociates the betting activity from expenditure of "real money", thus, encouraging players to overspend. The new feature presents the actual dollar value of any wagering. This is intended to remind the player of amounts being spent and better represent the associated outcomes of betting activity during play, thereby serving as a "reality check" for players.

Key Observations:

- The cash display has the highest awareness levels of all the RGFs with 94% to 100% of participating players aware of this feature on the new machines, regardless of whether or not they have ever played on the new terminals.

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[3] In the 1997/98 NS VL Players Survey it was found that one-third of Problem Gamblers have missed or were late for a significant family event because they were playing VLTs and 16% have missed work or school due to VL play. For about 13% of all Problem Players, this happens on at least an occasional basis throughout the year. (Section 3 - Problem Gamblers Analysis pp. 3-88)

Results were more mixed for the cash display than the on-screen clock.

- The cash display is the second most preferred RGF (after the on-screen clock) with 58% of participating Regular VL Players indicating they like this feature.
- In terms of liking, there were differences among those who adopted regular play on the new terminals versus those who continued to play mainly on the old machines, suggesting that the cash display was not as uniformly appealing as the on-screen clock.
- Adopters were significantly more likely to find the feature appealing (70% versus 48%), whereas three times as many Non-Adopters specifically indicated that they disliked the switch from credits to cash (33% versus 11%).
- Despite more mixed response for the appeal of the feature, displaying betting activity in cash amounts rather than credits was consistently perceived as the "most effective" RGF in assisting money management (46%).
- Liking for the cash display was not significantly related to any changes in session length or expenditure, nor any reductions in losing track of time or money or overspending behaviours.
- Although liking and perceived effectiveness of this RGF are high, only 7% of participating players referred to the cash display as a preferred feature on the new terminals, well behind the new games (51%) and the bill acceptor (24%).
- When covariates correlated with problem play were removed from the models, liking of the cash display had a small yet significant effect on changes in the amount spent while playing the new machines (p=.076; $\text{eta}^2=6.7\%$). The effects were directly opposed for lower versus higher risk players. Those at lower risk for problem gambling were more inclined to have decreased expenditure if they liked the cash display and increased if they disliked the feature. Conversely, liking of the cash display led to higher expenditures among the higher risk players whereas dislike was associated with declines in amount spent.

The cash display generated the highest awareness levels and was considered the most effective RGF by participating players to manage money spent while playing, although some players continue to prefer credits over cash for security and other privacy related reasons.

Implications:

The results for the display of betting activity in cash amounts rather than credits was more mixed than that noted for the on-screen clock. While this feature was rated most highly by players as a useful tool for managing money spent during play, there was no evidence that the appeal of the feature was related to any improvements in player behaviours or game outcomes. Part of this ambiguity in the results is due to the difficulty in operationally defining "use" of the feature. Essentially, everyone who played on the new terminals is exposed to the cash display and must use it during the session. Therefore, it is not possible to test for differences in outcomes associated with use or non-use of the feature. To a certain extent, the impact of the cash display will be captured in general response to the new terminals. The overriding influence of other more dominant machine characteristics (e.g., bill acceptor, increased rate of expenditure) diminishes any ability to parcel out effects attributable to the appeal of the cash display.

Certainly there is a high degree of face validity in having the bet activity presented in dollar values rather than credits. This directly associates wagering with the spending of money rather than a more neutral and sanitized "tokenization" of the process that further removes the activity from real financial consequences. However, in the focus groups sessions and pilot testing of the new machines, players did indicate that there are other issues, such as security, that influence preference for a credit rather than money-based system.[4] The display of cash amounts was also seen to heighten players' excitement and involvement levels with the betting activity, serving to further encourage chasing behaviour among some players. To a small extent, evidence for both positions, pro and con, were observed in the current study with some players decreasing and others increasing expenditure in response to the appeal of the cash display.

While the cash display is unlikely to be a principal barrier to play on the new terminals, there is no doubt that about one-third of those who prefer the familiar games on the older model VLTs do not like the switch from credits to cash display. In conjunction with other changes to favoured games (i.e., Swinging Bells) it is not clear how these players will respond when only the new terminals are available for play.

Recommendations:

- **Retain the cash display**

General response towards the cash display suggests that the feature should be retained despite the mixed results in the current research. This is a move that has been theoretically endorsed by many service providers in the field of problem gambling. In the focus group testing for the new terminals, participating players generally felt that players would benefit from having wagers and the amounts won and available for play expressed in terms of money as opposed to credits. The consensus was that the cash values keep players more accountable, especially if they are losing, and helps manage play better; "*the cash system puts things in real terms for me… I would say to myself there goes my phone bill or a head of lettuce.*"

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[4] NS VL Responsible Gaming Features Research, Preliminary Product Response Phase – Qualitative Testing Summary Report, Focal Research Consultants, May 2001

While the problem players can readily convert credits to cash, the non-problem players have more difficulty doing so, particularly when large credit amounts are involved. Thus, in terms of harm minimization, there may be greater value in enhancing players awareness of actual money spent before problems develop. Wins expressed in dollars make a favourable impression among the non-problem players and several stated that they would cash out more often in response to the feature. One player stated, "large amounts of credits keep you playing." For that particular player, if they saw that they "only have $35," they would cash out.

CASH DISPLAY RECOMMENDATIONS

- Retain feature
- Facilitate switch from credit based to cash based system
- Consider options to link cash display to budgeting

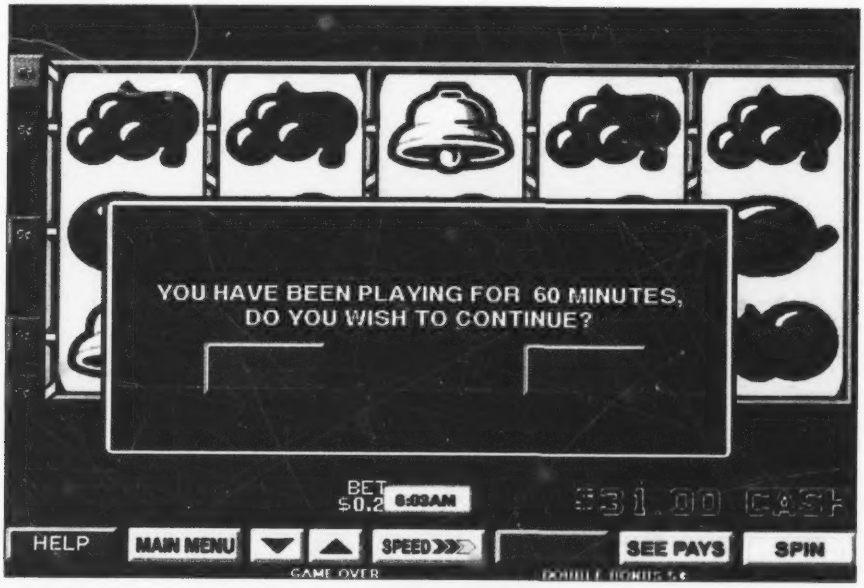
- **Facilitate the switch from a credit-based to a cash-based betting system by providing supplementary support materials**

To counter any negative consequences some players may experience in response to betting with cash instead of credits, provide educational and support materials for the player as to how the change can potentially impact play behaviours. Forewarned can be forearmed in helping players to use the cash display for a source of money management rather than a stimulant for overspending when the dollar values are high.

- **Explore options to use the cash display in conjunction with machine-based budgeting options**

Given current limitations in identifying and tracking individual player sessions, it is not possible for the machine to recognize the cumulative betting activity of an individual player. Nor can this information be shared with the player to inform on-going decisions about their VL gambling. Essentially, any time a player cashes out or runs the credits down to zero the machine cannot distinguish between on-going play by the same individual or the initiation of a new player. However, by modifying the clock RGF to allow player interaction, it may also be possible to use the bill acceptor and cash display to track player behaviours over a pre-specified period. This would provide interested players with the option of setting a budget for play or tracking the results of their session.

Pop-up Reminders



YOU HAVE BEEN PLAYING FOR 60 MINUTES,
DO YOU WISH TO CONTINUE?

Goal:
To introduce interruptions in extended play that alert players to passing time, heighten their awareness of time and money spent, and encourage them to evaluate the decision to continue playing.

Description:
On-screen messages are programmed to advise players how long they have been playing the machine and prompt the players to indicate whether they wish to continue play. The pop-up reminders are scheduled to appear at pre-set intervals based on previous research examining session length among problem and non-problem VL gamblers in Nova Scotia.[5] The first message appears after 60-minutes of continuous play, advising players they have been playing for 60-minutes and asking if they wish to continue playing. Selecting NO by touching the appropriate box on-screen will terminate the current game and a voucher (cash out slip) is printed for players to

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[5] In the 1997/98 Nova Scotia VL Players Survey conducted by Focal Research for the NSDOH, it was found that, on average, Problem Players tended to play for approximately 150 minutes each time as compared to approximately 60 minutes for Frequent Players. It was speculated that finding ways to interrupt the extended play sessions of the problem gamblers may offer opportunities for reducing length of play at a point in time when players are most vulnerable to overspending. It should be noted however that session length referred to the total amount of time spent playing and not "continuous" periods of play.

redeem remaining cash amounts on the terminal. Players can continue playing by touching the YES box. The message automatically disappears after 60 seconds if the player does not respond (eg., is away from the machine) and returns to the game currently in progress.

Players who decide to continue playing (or missed the first message) will see a new pop-up reminder every 30 minutes (at 90-minutes and 120-minutes of continuous play). At 145 minutes, players are given a 5-minute warning for the mandatory cash out scheduled to occur after 150 minutes of continuous play.

The timer for this feature restarts each time the credits go to zero and/or each time cash out occurs.

Due to behaviour-triggered exposure to the pop-up reminders, these features are less relevant for the majority of players and, thus, generate lower awareness, liking and perceived effectiveness.

Key Observations

General Pop-up Messages

- The pop-up messages are behaviour-triggered interruptions in continuous play.
- 90% of participating Regular VL Players are aware of the pop-up reminders.
- Unlike response for the on-screen clock and cash display, awareness of these RGFs are lower among the No Risk Players, who are least likely to have tried the new terminals and, when they do, tend to play for shorter periods of time (77% versus 92% to 97%).
- On average, liking of the pop-up messages declined over the course of the study. At the Post 3 measure, liking of these features also declined as risk for problem gambling increased.
- At the end of the trial period, just over one-third of all players liked the features (34% to 37%) with a slightly higher skew towards dislike (38% to 41%) especially among the Problem Players (Like: ≈ 20% versus Dislike: ≈50%).
- About one quarter of players feel that any of the pop-up reminders will have a positive effect in helping them keep track of time or money while playing the new terminals. Again, higher risk players, especially Problem Players, are least likely to expect to derive any benefit from the messages (≈10% to18% versus 23% to 40% of lower risk players).
- For both liking and perceived effectiveness, Non-Adopters, who have less experience with the new terminals, consistently evaluated the pop-up messages more positively than Adopters suggesting that there may be more theoretical than practical value in the features.
- The majority (54%) of participating Regular VL Players saw at least one of the pop-up messages at some time over the course of the study, representing

overall exposure for nearly two-thirds (64%) of those who have tried the new machines.

- In terms of cumulative exposure to these RGFs, the percentage of players seeing any of the messages increased with risk for problem gambling, ranging from a low of 26% by No Risk players to a high of 77% of Problem Players.
- The vast majority of those who took up regular play on the new terminals (Adopters) saw at least one of the reminders (79%) as compared to only 33% of Non-Adopters.

It is total length of play, not continuous play, that most strongly distinguishes high risk from low risk VL gambling.

- General exposure rates to the messages decline by half between the 60 (54%) and 90-minute pop-ups (27%), and again between the 120-minute (20%) and the 150-minute mandatory cash out (10%). Again, cumulative exposure to any of the pop-up messages increased with risk for problem gambling with almost half of Problem Players reporting exposure at some time to the 90-minute and 120-minute reminders.
- In terms of exposure on a per session basis, during half of all plays Problem Gamblers were exposed to the 60-minute pop-up, a rate twice that noted for any other risk group. However, for the remaining messages triggered after 60-minutes of play, there were no differences in per session exposure among the player groups suggesting that the latter pop-up reminders are not preferentially targeting those at higher risk.
- The primary behaviours impacting exposure are frequency of cashing out and running credits down to zero. These behaviours occur the majority of times high risk players (and most players) take part in VL gambling and will preclude exposure to the RGFs as such behaviour resets the internal clock for the messages.

Exposure to the 60-minute pop-up reminder is greatest for higher risk players. However, after the 90-minute mark, none of the messages preferentially target those at higher risk.

- When asked to suggest improvements or changes to the new terminals, 7% indicated they would like the pop-up reminders taken off (tied for second, after the suggestion of better payouts).

60-Minute Pop-up Reminder

- This is the only RGF for which perceived effectiveness ratings declined over the course of the study, suggesting that with on-going exposure and experience players were more critical of the potential or on-going value of the feature.
- Even without taking up regular play, one-third of all Non-Adopters (33%, or 47% of Non-Adopters who tried the new machines) reported seeing the 60-minute pop-up message.
- Problem Players are the only group for whom the median length of continuous play during the most recent play session was 60-minutes (30 to 40 minutes for

the lower risk groups), although median session length (from beginning to end, non-continuous) is 85 to 120 minutes for players at any level of risk.

- In 66% of sessions, the Moderate Risk Players did not have any play periods lasting for 60 continuous minutes, 71% for Low Risk and 80% for No Risk.
- The interruptions in continuous play (cashing out, running credits to zero and, to a lesser extent, switching machines or taking a break) are the primary barrier for exposure to the pop-up messages.
- Considering the most recent play session, half (51%) of Problem Players' sessions included exposure to the 60-minute pop-up, more than twice that of sessions for any other risk group. This suggests that this message is targeting those who presently have a problem with their VL gambling.
- On a per session basis, the majority of those who currently experience problems with their VL gambling are unlikely to be exposed to any RGF messages beyond the 60-minute mark.
- There were no differences among those at any risk level in the percentage reporting continuous play of 90-minutes or more during their last play session, indicating that after the 60-minute mark, length of continuous play is not an effective discriminator for problem VL play (it is overall length of the play session as opposed to continuous play that differentiates player risk).
- Exposure to the 60-minute pop-up had a significant effect on change in length of play ($p=.081$, $eta^2=6.9\%$) but had no main or interaction effects associated with risk of problem play.
- Exposure to the 60-minute pop-up had a slight but significant effect in reducing high risk players' expenditures. However, those high risk players who did not see the message increased their expenditures.
- This message is the only RGF which appears to have had an effect in terms of mitigating both session length and expenditure on the new terminals.

Exposure to the 60-minute pop-up message was the only RGF found to have any positive influence in reducing session length and expenditure.

90-Minute Pop-up Reminder

- 34% of participating Regular VL Players like it.
- 25% think it has some effect on helping them keep track of time.
- 20% have seen the message during play at some time in the past (increases with risk level).
- 10% to 16% of players at some level of risk have seen it during the most recent play session.
- Exposure to the 90-minute pop-up had a significant effect on change in length of play ($p=.060$, $eta^2=7.5\%$) but had no main or interaction effects associated

Exposure to the later pop-up messages was more likely to be associated with increases in session length, primarily due to the link between continuous play and chasing behaviours (chasing wins or losses).

with risk of problem play. The change was not in the expected direction, as only those who did not see the RGF had a significant reduction in session length suggesting that other factors associated with continuous play rather than exposure to the 90-minute message was sustaining session length.

- Exposure to the 90-minute pop-up had no impact on expenditures for high risk players but exposure was significantly associated with increased expenditures among the low risk players.

120-minute Pop-up

- 34% of participating Regular VL Players like it.
- 24% think it has some effect on helping them keep track of time.
- 10% have seen the message during play at some time in the past (increases with risk level).
- 4% to 12% of players at some level of risk have seen it during the most recent play session.
- Exposure to the 120-minute pop-up had a significant effect on change in length of play ($p=.034$, $eta^2=9.4\%$) but had no main or interaction effects associated with risk of problem play – change was not in the expected direction, as only those who did not see the RGF had a significant reduction in session length.
- Exposure to the 120-minute pop-up had no impact on expenditures for high risk players but exposure was significantly associated with increased expenditures by low risk players.

Implications:

In the qualitative research conducted during the exploratory phase of the study, the initial reaction of players towards the 60, 90, and 120-minute pop-up reminders was mixed. Several non-problem players perceived them as an awareness tool and thought they would be helpful in terms of providing players with a "reality check." As several problem players stated, the pop-up reminders "*break the trance*" or "*interrupts the flow*" and force the players to "*think*" and "*make a decision.*" For one resolved player in particular, this pause would be sufficient for him to think to himself "*I didn't call my wife, I've lost x amount of money*" etc. Another player stated that if he saw the 120-minute pop-up reminder he would think that it is "*time to go.*"

Regardless, the majority of players viewed the 60, 90, and 120-minute pop-up reminders as an annoyance. These players felt that they would simply select "yes" and "*get on with the game.*" The bottom line for these players is that these reminders will not get them to leave sooner. In fact, as they become accustomed to the pop-up window, players noted they would probably ignore the message and routinely select the "yes" option.

The bigger issue surrounding the 60, 90, and 120-minute pop-up reminders, however, was whether the players will be exposed to these features. Several players mentioned that "cashing out" is an integral part of their play strategy, while others mentioned that they let their credits level reach $0 before putting in additional monies for play in order to keep track of expenditures. Both play behaviours will restart the clock on the machines and minimize the chances of the pop-up reminders appearing. Several participants who were clearly annoyed by the pop-up reminders stated "*you could beat the clock*" and "*let the machine go down to $0 or cash out*" to avoid the reminders.

The results of the quantitative phase of the research certainly confirm some of these anecdotal player observations. Cashing out and running the credits down to zero are common player behaviours that occur in the majority of play sessions, particularly by those at higher risk for problem gambling. This behaviour obviously interrupts continuous play and precludes any potential benefits to be derived from the reminders. Notwithstanding the annoyance factor and potential for players to become habituated to the messages, there is evidence that exposure, to at least the 60-minute message, was associated not only with a decline in length of play, but also in expenditure by those at higher risk for problem gambling. More importantly, due to other characteristics of the new machines, if higher risk players did not see this RGF, expenditure increased. Thus, the reasoning behind the pop-up reminders is sound, however, the link with continuous play renders the latter messages at the 90-minute mark and beyond relatively ineffective.

Although, on average, Problem Players were significantly more likely to be playing for continuous periods of 60-minutes or more during each session (57% versus 29% to 34%), there were no differences among those at any level of risk in the percent reporting continuous play of 90-minutes or more (18% to 24%). Therefore, continuous play of 90-minutes or more is not necessarily an effective discriminator for problem VL play.

Not only are the later messages (90-minute, 120-minute and 5 minute cash out warning at 145 minutes) and mandatory cash out unlikely to preferentially target the high risk players during a particular session of play, but it also appears that exposure to these messages are associated with increases in time and money spent among the lower risk players. This finding likely reflects the influence of factors associated with continuous play rather than the RGFs. Extended play tends to occur in either of two situations. Players do not tend to interrupt their play sessions if they are winning, especially moderate accumulating wins that are not necessarily "*big*" enough to trigger cash out but do extend play, or if they are chasing losses. Both of these situations are extremely compelling in extending play, particularly if the player believes they are on a "*hot* *machine*" that is "*about to pay out*". Often they have "invested" so much money they are reluctant to walk away "*so someone else can get the pay off*" or can't stop playing because they have to win the money back. While exposure at the 60-minute mark led to declines in length of play, those who did not respond at this point were unlikely to be influenced by any further exposure at the 90 and 120-minute intervals. Hence, to a certain extent seeing the later messages is also a proxy for having played for continuous periods of 90-minutes or more. From one perspective, targeting those involved in these long periods of continuous play is a reasonable goal for the responsible gaming features. However, the lack of impact by the current RGFs suggest improvements are required if the intervention is going to supercede the other powerful factors supporting on-going play.

Ideally, the most effective modification to the pop-up reminders would be to link the messages to total time played rather than continuous periods of play. Although, as noted earlier, this technology has not yet been applied to video lottery, casino venues have been using player tracking systems and loyalty programs for marketing purposes. In Australia, casino patrons can now use prepaid debit cards for machine play and obtain confidential printouts of their play activity in order to assist them in monitoring and managing their play. This is an important step in empowering the player to make more informed decisions about their gambling. However, programming the machine to interactively provide the information during the actual play session links decisions to specific points of play at a time when it can be expected to have the most impact on both short and long-term VL outcomes.

Until such time that individual play sessions can be identified on terminals in Nova Scotia, there are a number of options that are identified to potentially enhance the effectiveness of the current pop-up messages.

Recommendations:

- **Retain the current pop-up messages until such time as improved technology, player feedback, or other modifications warrant changes to design.**

The 60-minute pop-up message should be retained. Although the effect on player behaviours was not strong, the findings indicate that, for at least some players, exposure to the 60-minute reminder had a significant impact for reducing session length in general and expenditure by higher risk players specifically. This occurred independently of other machine characteristics and player behaviours that were influencing time and money outcomes.

At a per session level, only the 60-minute pop-up preferentially targeted higher risk players. However, due to greater frequency and length of play, those at higher risk will be exposed to the latter messages more often over time. The features were originally designed to exert influence at the time of intervention. The intention is to encourage the player to evaluate whether or not they wish to continue playing at a critical point when stopping would be expected to have a significant effect in reducing the long and short-term consequences of excessive play. It could be that effects of repeated exposure to the messages will lead to long-term changes in behaviour, either in reducing play or in efforts to avoid seeing the message. Alternatively, players may simply become inured to the messages, responding by rote or habit particularly if other factors associated with continuous play are overriding the effect of seeing the message. Regardless it is not clear if any benefits are accrued with frequency of exposure rather than simple exposure during a specific session of play. Until "accruing benefits" have been assessed there is some apparent value in retaining the additional pop-up messages given that approximately one-quarter of participating players believed the features provide at least some assistance in controlling or tracking time spent playing the machines.

POP-UP REMINDERS RECOMMENDATIONS

- Retain pop-up messages for continuous play with revised schedule
- Have messages stay fixed on-screen until players respond
- Have message "freeze" on-screen for minimum time period regardless of player response
- Introduce complementary RGFs/messages to target non-continuous play
- Consider linking message to time-of-day clock (appearing at regular intervals throughout play)
- Develop and provide updated player information announcements as part of screen messages

NSGC may wish to consider shortening the intervals between the first message at 60-minutes and the later reminders. This will be dependent upon the feasibility of incorporating other changes that may yield greater improvements in reducing excessive play.

- **Have messages remain on the screen until the player responds rather than only appearing for a fixed time period; ensure player still has visual access to information relevant to the decision process when the pop-up message screen is engaged such as amounts spent, on-screen clock (time-of-day).**

During a play session, players can engage in a number of behaviours that reduce the likelihood of them seeing the pop-up reminders. For example, a player can "jam" the machine so that it plays automatically while they do something else. In the focus groups, players also confirmed leaving the terminals with "a few credits on it" in order to hold the machine while they get additional funds for play, use the washroom or other amenities at the location. All of these behaviours typically increase with risk for problem VL gambling. It is feasible that a message could appear while the individual is otherwise engaged and, thus, they will miss this opportunity to reflect on the merit of continued play.

This also is relevant for the appearance of the pop-up message screen. In the focus group testing, players indicated that it was helpful to be able to see the clock and other play information such as how much cash they had left in the machine and the clock. If the pop-up reminder completely obliterates this information, players said they may not have the necessary information to make an informed choice and therefore would be less inclined to opt out of play.

- **Have the messages "freeze" on the screen for a fixed period of time (15 seconds) so players cannot speed up the process; vary the content and appearance of messages to avoid development and use of habitual responses.**

With the vast majority of high risk players having seen the pop-up messages, there is a danger that with repeated exposure players will become habituated to the feature, responding by rote and quickly pushing the appropriate button to continue play. In the qualitative testing phase, players suggested making the screen freeze for a few seconds so that players would be forced to take a small break. This would discourage players from speeding up the process and circumventing any benefit from the message in interrupting play.

Developing a series of screen messages with slight variations (e.g., interesting player facts and relevant information that are randomly presented and up-dated), may also serve to counter the formation of automatic responses and make the break more meaningful and interesting for the players. The intent of this RGF is to interrupt play or disengage the player from the process so they can make a conscious decision to stop or continue. It may be reasonable to also vary the player response required to select for continued play. The messages can be software based and overlay machine programming. Up-dates can be inserted at regular intervals to keep the feature fresh and interesting to the player and, thus, worth their time and attention. It also may be a useful vehicle for informing players of new features or responsible gaming initiatives, events, and low risk gambling guidelines. This is the most effective venue for reaching and communicating with regular VL gamblers and, more importantly, those individuals who are at greatest risk for problems with video lottery gambling. Opportunities may exist for promoting cooperative messages with community health and other social and government agencies.

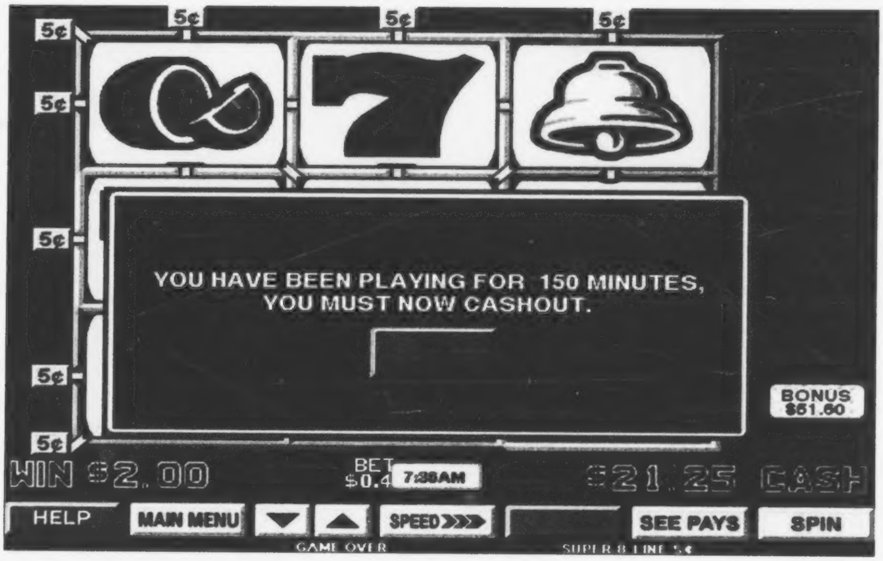
- **Consider the option of having the pop-up messages appear every 20 to 30 minutes during play, regardless of session length or continuous play; or alternatively introduce complementary features to target those behaviours that are currently reducing or precluding players' exposure to the continuous play pop-up messages.**

The simplest solution for the pop-up messages would be to have the screens appear on a set schedule of every half hour (perhaps in conjunction with the on-screen clock feature emphasizing time-of-day as well as a prompt for continued play). This approach would target all players but again could be modified to include meaningful messages that would be relevant to a broad range of users.

If this approach is not feasible, consideration should be given to linking cash out behaviours and running credits down to zero to an RGF message. Given the frequency of running down the credits, especially by Problem Players (approximately 7 times each session), a random intermittent schedule may be most appropriate for use in targeting this behaviour. Again, an opportunity may exist to incorporate the use of the on-screen clock to identify per player sessions either on an ad hoc basis or in a more formalized manner (e.g., requiring players to "log on" and "log off" when playing).

Cashing out is more likely to occur in response to a win or an accumulation of wins and is often used as a budgeting strategy by players to exert control over monies spent. While this behaviour was significantly associated with reductions in session length, both cashing out and continuing to play and running credits down to zero were identified as two of the three behavioural determinants contributing to the increased rate of expenditure on the new machines. Thus, on the new terminals, these are both critical behaviours to target for harm minimization.

Mandatory Cash Out Requirement



YOU HAVE BEEN PLAYING FOR 150 MINUTES,
YOU MUST NOW CASHOUT.

Goal:

To interrupt excessive play by terminating any sessions that extend to 150 minutes of continuous play. This forces the player, at minimum, to break from play and introduces an opportunity for players to leave the machine.

Description:

After 145 minutes of continuous play, a message is displayed warning the player that they have 5 minutes to cash out before the terminals forces a mandatory cash out at 150 minutes. After 150 minutes of play, the machine forces the player to terminate the session. At this point, the player will have been exposed to three sequential pop-up reminders, as well as the mandatory cash out warning.

As with the pop-up reminder RGF, the timer restarts each time the credits go to zero and/or a cash out occurs.

Key Observations:

- Two-thirds of participating Regular VL Players (66%) are aware of the 5-minute warning and mandatory cash out feature.

- Awareness of the feature increased with risk for problem gambling, ranging from a low of 51% for No Risk Players to a high of 80% for Problem Players participating in the study.
- In contrast, liking was inversely related to risk for problem play. Lower Risk Players were more likely to evaluate the features favourably (45% versus 13%).
- All players were equally likely to attribute low ratings of effectiveness for the warning message and mandatory cash out in terminating a player's session (≈19%).
- Only one in 10 participating Regular VL Players were exposed to the mandatory cash out feature, primarily Problem Players.
- Problem Players are the only group in which some players cashed out voluntarily after seeing the 5-minute warning but before the mandatory feature was invoked.
- Exposure to the 5-minute warning and mandatory cash out feature had no detectable influence for changes in session length among those taking part in the study.
- Exposure to the 5-minute warning and mandatory cash out feature had no impact on expenditures for high risk players, but exposure was significantly associated with increases in low risk players' expenditures.

The mandatory cash out in its current configuration had low awareness and exposure, generated low levels of liking and perceived effectiveness, and had no detectable influence on reducing session length or expenditure.

Implications

The primary limitation of the mandatory cash out is again related to its link with continuous play. On average, the longest period of continuous play during a particular session is approximately 30 to 40 minutes for Non-Problem players and 60-minutes for Problem Players. Only small minorities of players are playing beyond 120 minutes on a continuous basis (4% to 11%), although this tendency is higher among the Problem Players (18%). Only approximately 10% of sessions by those at greatest risk will include continuous play that would reach the threshold for triggering the mandatory cash out.

In the focus group testing with players, similar to the other pop-up reminders, the 5-minute mandatory cash out warning was also seen as an annoyance by most players. Unlike the 60, 90, or 120-minute pop-up reminders, however, the warning reminder could potentially change play behaviour for many of the players, problem and non-problem alike. Several players stated that the 5-minute mandatory cash out warning would lead them to "*drive up*" or "*double-up*" their bet levels. The objective would be "*to try and build up the money*" and "*see what I can get with 5 minutes to go.*" One player described this as a "*5-minute excitement period.*"

The mandatory cash out screen that appears after 150 minutes of play was also greeted negatively, and, in some cases, with hostility. Several players felt that the mandatory cash out feature "*infringed on their rights.*" These players want "*the option to always make a choice*" and would like to continue playing without having to cash out if they so desired.

The cash out feature was seen to have some potential value for those who lose track of time during play by serving as an enforced interruption.

A more common complaint was that the mandatory cash out feature took away the players' ability to control the amount being cashed out. Many players stated that they only cash out when they have "a good even number" (e.g., multiples of $5). Apparently, this strategy discourages bar staff from rounding off tickets values to the nearest $5 and keeping the change for themselves as a "tip." Other players thought it was "foolish" to redeem tickets with low cash values (e.g., $1.25, $3.00). Instead, players would simply "throw them away."

As for the actual effectiveness of this feature in discouraging excessive play, there was mixed reaction. Many said that they would simply "load up the machine again" or "continue playing." One player suggested that she would place her cash out slip on top of the machine and continue playing. This strategy removes the risk of "someone taking your machine" when redeeming a ticket. Regardless, among those players who are cognizant of elapsed time or who are there to play until their money is gone, the mandatory cash out feature will have minimal influence in discouraging excessive play. Alternatively, this feature has the greatest potential benefit for those who sometimes lose track of time while they are playing. These players do not necessarily like the feature, but they concede that it is an "awareness" tool that might get them to stop playing sooner. Of course, there are situational factors for these same players to consider. Some of these factors include whether they are winning or losing, whether they have to be somewhere else or not, the time of day, whether it's close to closing time or not.

CASH OUT RECOMMENDATIONS

- Link activation to total time spent playing not continuous play
- Move up the warning message to provide players with more time to prepare for cash out
- Consider linking cash outs to occurrence of moderate wins

Recommendations

- **Similar to results for the pop-up message, the ideal scenario would be to link the warning and mandatory cash out to total time spent playing, rather than continuous play.**

Simply applying the current schedule for the pop-up messages and mandatory cash out to overall session length would vastly improve the effectiveness of the features in targeting higher risk players. This necessitates machine modification to include the capability of identifying individual players

Until such time as the machine technology is included to provide this service, the alternative options previously discussed for the pop-up messages in general also apply to the warning message and mandatory cash out.

- **Consider moving up the timing for the cash out warning to give players more opportunity to prepare for the mandatory cash out.**

By further separating the warning and the mandatory cash out, players can plan their play behaviour to accommodate the approaching termination of their session rather than being reactive. This should eliminate a frenzied period of activity in response to the warning, at a point in play when they may be chasing substantial losses or wins. This should have the added benefit of reducing player anxiety or hostility towards the ensuing cash out, thereby making the process less contentious for all involved.

- **Consider options for associating the mandatory cash out with wins.**

Invoking the mandatory cash out whenever a player experiences a significant win introduces a break in play. "Reinvestment of wins" in on-going play was one of the behaviours found to be associated with problem VL gambling in the 1997/98 NS VL Players Survey. Many players cash out when a win is experienced and then continue to play with the winnings. This strategy is often used by players as a means of controlling expenditures. However, it is "playing with winnings" that, over time, further contributes to the degree of losses experienced, especially by Problem VL Players.

Cashing out after a significant win and stopping is what distinguishes problem from non-problem play. Thus, linking the mandatory cash out to significant wins may serve as an opportunity for helping players to reassess on-going play. As this is a point when lower risk players usually cash out anyway, there is likely to be little resistance to the features among the recreational players. The actual amount selected as a win can be determined based on previous research conducted in Nova Scotia and tested with players to identify the optimum dollar level.

Conclusions

The Nova Scotia VL Responsible Gaming Features Research provides NSGC and ALC with valuable information for use in informing on-going planning for the VL responsible gaming program.

While readers are cautioned as to the limitations of the current research study, the findings are promising in assessing the efficacy of machine-based interventions in mitigating excessive play and minimizing any negative consequences associated with involvement in problem VL play.

The new terminals with RGFs are an important first step in addressing this area of responsible gaming and the research has made a significant contribution in identifying the potential for further development in machine-based intervention.

21-0352

(Survey) ID: ____ ____ ____ ____

VL RGF Research
Pre-Survey

RID: ____ ____ ____

Phase: 1

Interviewer ID: ____ ____

June 05, 2001

VERSION 5

AREA:HRM 1
South Shore 2
Northern 3 ____

INTRODUCTION

May I please speak to ________________. **(IF RESPONDENT IS NOT AVAILABLE ARRANGE CALL BACK - IF QUESTIONED INDICATE RESPONDENT AGREED TO PARTICIPATE IN LEISURE ACTIVITIES STUDY BEING CONDUCTED IN NOVA SCOTIA).**

Hello my name is ________________, I'm calling from Focal Research, a professional research firm in Halifax, Nova Scotia. Within the last week or so you had been kind enough to agree to take part in a study on video lottery gaming. The purpose of the study is to understand how people play the games and to identify ways to help people play for fun and entertainment and discourage excessive play. The survey takes approximately 15 minutes and your answers are completely confidential. It is an opportunity for you to have input on something that effects you and people you know in our province. It also helps us to understand the games from those who actually play and have experience with the machines. We must complete the survey with you as soon as possible. Are you able to take part right now or would you prefer to arrange a time when you have more time and/or privacy to participate. **(IF NECESSARY ARRANGE CALLBACK OR HAVE RESPONDENT CALL US BACK TO COMPLETE THE SURVEY ASAP).**

IF YES – RECORD RESPONDENT RID# OFF RECORD OF CALL SHEET ONTO SURVEY RID AND PROCEED WITH SURVEY.

There are no right or wrong answers, so please be as honest and candid as possible.

Q1. First of all, do you or does anyone in your household work in any of the following occupations?

	YES	NO
The Media (Radio, TV, Print)	[ ]	[ ]
A Member of ACTRA	[ ]	[ ]
Member of a political party or Lobby Group	[ ]	[ ]
Employee of the Atlantic Lottery Corporation	[ ]	[ ]
VLT Manufacturer/Distributor	[ ]	[ ]

IF YES TO ANY ABOVE – THAND & TERMINATE

SECTION A – GENERAL PLAYING PATTERNS

A1. On average how often do you play video lottery games excluding any play of slots or video machines at the casino? **(READ LIST)**

At least once per day	3
At least once per week	2
At least once per month	1
Less often than once per month	**0 – THANK AND TERMINATE**

____

A2. Approximately how long have you been playing video lottery games at least once per month or more? **(CONVERT TO MONTHS)**

____________________ ___ ___

A3. On average how many times **(PER WEEK OR PER MONTH)** do you play the machines? **(CONVERT TO NUMBER OF TIMES PER MONTH)**

PER WEEK ____________________ (X 4) ___ ___

PER MONTH ____________________

Now we are going to focus only on your play over the past month.

A4. During the last month how many times did you play VLT's? This would include those times when you played more than once in a single day.

____________________ ___ ___

A5. In the past month on average how long did you tend to play video lottery games each time you played **(CONVERT TO MINUTES – USE MIDPOINT FOR RANGES).**

Specify____________________ Minutes ___ ___ ___
(Record Verbatim)

< 30 minutes	1
30 – 59 minutes	2
60 – 90 minutes (1 hr – 1.5 hrs)	3
91 – 120 minutes (over 1.5 hrs – 2 hrs)	4
121 – 180 minutes (over 2 hrs – 3hrs)	5
181+ minutes (over 3hrs)	6
(Varies)	7
(Don't know)	9

Category ___

A6. On average how much did you spend each time you played? This is out-of-pocket not including winnings. **(ROUND TO NEAREST DOLLAR)**

____________________ ___ ___ ___ ___

A7. Do you usually set a budget or limit for playing video lottery games where you decide how much time or money you want to spend before you start to play?

YES – Money budget	1
YES – Time budget	2
YES – Both	3
NO	0

___

A8. On a scale of 0 to 10 where 0 means never (0% of the time) and 10 means always (100% of the time), how often do you…

	Never (0 %)										Always (100%)	
a) lose track of time while playing the machines	0	1	2	3	4	5	6	7	8	9	10	___

b) lose track of how much money you are spending while playing the machines.	0	1	2	3	4	5	6	7	8	9	10	___
c) spend more time playing VLT's than you would like.	0	1	2	3	4	5	6	7	8	9	10	___
d) spend more money playing than you would like.	0	1	2	3	4	5	6	7	8	9	10	___
e) cash out and then continue to play?	0	1	2	3	4	5	6	7	8	9	10	___
f) let credits get down to zero before you put in more money?	0	1	2	3	4	5	6	7	8	9	10	___

A9a. Is there a clock located in or near the area where you usually play VLT's, that you can see while playing?

YES	1
NO	0
Don't know	9

___

A9b. Do you usually wear a watch?

YES	1
NO	0

___

A10. I'm going to read you a series of statements about video lottery and I would like you to tell me whether you agree or disagree with each one. Using a scale of 1 to 5, where 1 means strongly disagree and 5 means strongly agree. How much do you agree or disagree with each of the following? **(ROTATE ORDER IN SETS)**

		Strongly Disagree				Strongly Agree	
( )	a) I have friends or family members who worry or complain about me playing VL games.	1	2	3	4	5	___
	b) I sometimes feel guilty about how much time I spend playing VL games.	1	2	3	4	5	___
	c) I play video lottery to forget my troubles or worries.	1	2	3	4	5	___
( )	d) I would like to reduce the amount of time I spend playing VLT's.	1	2	3	4	5	___
	e) My friends or family and I enjoy playing VL games when we go out together.	1	2	3	4	5	___
	f) I sometimes feel guilty about the amount of money I spend on VLT's.	1	2	3	4	5	___
( )	g) Video lottery games are a fun and entertaining way for me to pass time.	1	2	3	4	5	___
	h) I have lied about my VL gambling.	1	2	3	4	5	___
	i) My VL play has put a strain on my relationships at home.	1	2	3	4	5	___

SECTION B

B1. Have you seen or heard anything about the new VLT machines?

YES	**1 - CONTINUE**	
NO	**0 – GO TO SECTION C (P. 6)**	___

B2. **IF YES** - Based on what you have seen or heard, what is different about the new machines compared to the old VLT's? **(DON'T READ – PROBE FOR ANYTHING ELSE – RECORD VERBATIM AND CODE BELOW)**

____

____

____

Bill acceptors	1	___
New games	2	___
Play with cash instead of credits	3	___
On-screen clock	4	___
Pop-up reminders (to continue to play)	5	___
5-Minute Cash Out Warning/ Mandatory cash out (e.g., at 150 min.)	6	___
Other	7	___

____

____

B3. Have you tried any of the new machines (any of the machines with a bill acceptor on it)?

YES	**1 - CONTINUE**	
NO	**0 – GO TO SECTION C (P. 6)**	___

B4a. **IF YES** – In the last month how many times have you played any of the new machines? **(CHECK – MUST BE LESS THAN OR EQUAL TO A4)**

______________________________ ___

B4b. What game or games did you play on the new machines?

______________________________ ___

______________________________ ___

B4c. Were you betting in cash or credits?

Bets were in cash amounts	1
Bets were in credits	2
DON'T KNOW	9

___

B5a. Did you notice if there was a clock on the screen or not?

YES	1 – **CONTINUE**
NO	0 – **GO TO B6**
DON'T KNOW	9 – **GO TO B6**

___

B5b. On a scale of 1 to 5 where 1 means never and 5 means continuously, how often did you refer to the clock while you were playing?

Never				Continuously
1	2	3	4	5

___

B6. During play did you see any messages come up on the screen telling you how long you have been playing and asking if you wanted to continue to play?

YES	1
NO	0

___

B7. While playing the new machines did you see a screen message warning you that you had 5 minutes before the machine would automatically cash out?

YES	1
NO	0

___

B8. Overall on a scale of 1 to 5 where 1 means you like the new machines much less than the old machines and 5 means you like them much more, how much do you like the new machines compared to the old VLT's?

Like much less				Like much more
1	2	3	4	5

___

B9. Why is that?

____ ___ ___

____ ___ ___

____ ___ ___

____ ___ ___

SECTION C

Now we are going to focus on only the last time you played the machines. We understand that it may be difficult to provide exact answers so estimates are fine but please try to be as accurate as possible and only refer to the last time you played, not how you usually or typically play.

C1a. When was the last time you played?

Day of week: ______________________ ___
(Monday = 1 to Sunday = 7)

Date: ______________ ___ ___
(1st to 31st)

Month: ____________________ ___ ___
(May = 05, June = 06)

C1b. Where did you play?

Location name: __________________________ ___ ___

Town/City/Area: ________________________ ___ ___
(Use Codes Below)

Halifax = 1
Dartmouth = 2
Bedford/Sackville = 3
Halifax County = 4
Bridgewater = 10
Chester = 11
Yarmouth = 12
Other South Shore = 13
Port Hawkesbury = 20
Pictou = 21
New Glasgow = 22
Other Northeast = 23

C2a. (The last time you played) Were you at the location to specifically play the machines or were you there for other reasons and ended up playing?

Specifically to play the machine	1	
For other reasons	2	___

C2b. Did you play alone or with friends or family members on the same or a nearby machine (the last time you played) ?

Playing alone	1	___
With friends/family members on the same machine	2	___
With friends/family members on nearby machine(s)	3	___

C3. What games did you play?

____ ___ ___

____ ___ ___

____ ___ ___

____ ___ ___

C4a. Did the machine that you played on have a bill acceptor?

YES	1 - **CONTINUE**	___
NO	2 – **GO TO C5a**	

C4b. Did you use the bill acceptor only, coins only, or did you use both (the last time you played)?

Bill acceptor only	1	
Coins only	2	___
Both	3	

C5a. This last time you played, how much money did you put into the machines when you first started to play? **(ROUND TO NEAREST DOLLAR)**

_______________________________ $ ___ ___ ___

C5b. How many times did you put more money into the machine while you were playing (again, for the last time you played)?

______________ times ___ ___

C5c. Was this more, less or about the same amount of times you usually put money into the machines?

More times	1	
About the same	2	___
Less	3	

C6a. What time of day did you start to play? _______ ___ ___ : ___ ___
(USE 24 HOUR CLOCK)

C6b. In total, how long did you play (the last time you played)?
(CONVERT TO MINUTES)

_______________________ minutes ___ ___ ___

C7a. The last time you played, how many times did you do any of the following. First of all …

	# of times
1. Cash out	___ times
2. Let credits or money on the machine go down to zero before putting in more money or stopping	___ times
3. Take a break or stop temporarily to do something else	___ times
4. Switch machines	___ times

(IF TOTAL = 1 THEN GO TO C8A)

C7b. How long after you started play did you first do any one of these behaviours? **(i.e Which of these events happened first and how quickly did it happen?)**
(CONVERT TO MINUTES)

______________________________ ___ ___ ___

IF C7b = C6b THEN GO TO C8A

C7c. **(CHECK C6b)** Of the ______ minutes you played, what was the longest period of time you continuously played the game without cashing out, or having the credits or cash go down to zero, or stopping play? **(PROBE: How long were you able to continuously play before you cashed out or went down to zero and had to put in more money) (RECORD IN MINUTES)**

_______________ minutes ___ ___ ___

C8a. Was the total amount of time more, less or about the same amount of time you intended to play?

More	1	
About the same	2	___
Less	3	

C8b. On a scale of 0 to 10 where 0 means never (0 % of the time) and 10 means always (100% of the time) , how often did you lose track of time while you were playing?

Never (0 % of time)									Always (100% of time)		
0	1	2	3	4	5	6	7	8	9	10	___

C9. Why did you stop playing?

____ ___ ___

____ ___ ___

____ ___ ___

____ ___ ___

C10a. When you finished playing were you …

Up any amount of money (won more than you spent out of pocket)	1 - **CONTINUE**	
Break even (won back the same amount of money as you spent)	2 – **GO TO C10E**	___
Lost (spent more money out of pocket than you won)	3 – **GO TO C10C**	

C10b. How much money did you walk away with in addition to the amount you had put into the machine to play out of your own money?

____________________ $ ___ ___ ___

C10c. How much money did you spend out-of-pocket (excluding winnings)?

____________________ $ ___ ___ ___

C10d. Is this amount more, less or about the same amount you intended or wanted to spend?

More	1	
About the same	2	___
Less	3	

C10e. On a scale of 0 to 10 where 0 means never (0% of the time) and 10 means always (100% of the time), how often while you were playing did you lose track of how much you were spending?

Never (0 % of time)										Always (100% of time)	
0	1	2	3	4	5	6	7	8	9	10	___

SECTION D

We are almost completed the survey I just have a few more questions to assist us in analyzing the information you have provided.

D1. Has anyone ever told you they were concerned with how much time or money you were spending on VL gaming?

YES	1	
NO	0	___

D2. Have you now or in the past ever felt you were having a problem spending more time and/or money playing VLT's than you should? **(READ LIST)**

YES - More Money	**1 - CONTINUE**	
YES - More Time	**2 - CONTINUE**	
YES - Both	**3 - CONTINUE**	___
NO	**0 - GO TO D4**	

D3. Have you solved your problem with VL play or is it still a concern for you? **(READ LIST)**

Completely solved	1	
Partially solved	2	
Still a problem	3	___

D4. In general, on a scale of 1 to 10 where 1 means your VL play is not at all a problem and 10 means your VL play is a serious problem, how would you rate your VL play right now?

Not at all a problem Serious problem

1 2 3 4 5 6 7 8 9 10 ___

Demographics

D5. In what year were you born?

Specify: ______________________ ___ ___

D6a. Including yourself, how many people live in your household?

______________________ ___ ___

(IF ONE - GO TO D8)

D6b. Are there any other adults in your household, 19 years of age or older, who play video lottery games either... **(SPECIFY HOW MANY)**

Occasionally
once every few months or so ______________________ ___ ___

OR

On a regular basis
of once a month or more ______________________ ___ ___

(TOTAL CANNOT EQUAL MORE THAN D6a)

D7. How many children in your household are under 19 years of age?

D8. What is your current marital status? **(READ LIST)**

Single	1
Married/Cohabitating/Living with a partner	2
Divorced/Separated	3
Widowed	4

D9. Which of the following best describes your current work status?

Working Full-time	1 - **CONTINUE**
Working Part-time	2 - **CONTINUE**
Unemployed	3 - **GO TO D11**
Student	4 - **GO TO D11**
Homemaker	5 - **GO TO D11**
Retired	6 - **GO TO D11**
Disabled	7 - **GO TO D11**

D10. What is your current occupation (i.e. the type of work you do)?

D11. Which of the following best describes the highest level of education you have completed?

Less than Grade 9	1
Grade 9 - 13	2
Trade School/Non-University	3
University without degree	4
University with degree	5
University post-graduate degree	6
Refused	7

D12. Which of the following broad income categories best describes your total annual household income (that is, everyone combined, before taxes)?

Less than $10,000	1
$10,000 - $25,000	2
$25,001 - $35,000	3
$35,001 - $45,000	4
$45,001 - $60,000	5
$60,001 - $75,000	6
Over $75,000	7
Refused	8
Don't Know	9

D13. What language is your mother tongue?

English	1	
French	2	
English/French	3	___
Other ____________	4	

D14. What are the first three digits of your postal code?

______________________________ ___ ___ ___

D15. **INTERVIEWER ONLY:**

Male	1	
Female	2	___

CLOSING STATEMENT

This completes your participation in this survey, however, we would like to ask if you are interested in being part of an ongoing confidential research panel for this study. You will be contacted in approximately two months to follow up on this survey. Your participation is voluntary and completely confidential. We would really appreciate your help. As members of the Professional Marketing Research Society and the Better Business Bureau, we guarantee that any information you provide will be used for research purposes only. Is this something you can help us with?

YES	1	
NO	2	___

IF YES, RECORD NAME:

____

You may receive a quality control check. My supervisor calls back 10% to 15% of all my completed surveys to ensure you were comfortable participating in our study and that I was doing my job properly. May I please confirm your telephone number? **IF "NO" TO PANEL:** May I ask your first name so my supervisor would know who to ask for?

____

TELEPHONE #: ________________ DATE: ______________

INTERVIEWER: ________________ SUPERVISOR: __________

DATA ENTRY: ______________ QCC: __________

On behalf of Focal Research, I would like to thank you for your participation. Your contribution to our research is greatly appreciated.

21-0452

(Survey) ID: ____ ____ ____ ____

VL RGF Research
Post-Survey 1

RID: ____ ____ ____

Phase: 2

Interviewer ID: ____ ____

August 22, 2001

VERSION 6

AREA:HRM	1	
South Shore	2	
Northern	3	____

INTRODUCTION

May I please speak to ________________. **(IF RESPONDENT IS NOT AVAILABLE ARRANGE CALL BACK - IF QUESTIONED INDICATE RESPONDENT AGREED TO PARTICIPATE IN LEISURE ACTIVITIES STUDY BEING CONDUCTED IN NOVA SCOTIA).**

Hello my name is ________________, I'm calling from Focal Research, a professional research firm in Halifax, Nova Scotia. In June you had been kind enough to take part in a study on video lottery gaming and agreed to be re-contacted. The purpose of the current study is to track various video lottery play behaviours. The survey takes approximately 15 minutes and your answers are completely confidential. We must complete the survey with you as soon as possible. Are you able to take part right now or would you prefer to arrange a time when you have more time and/or privacy to participate. **(IF NECESSARY ARRANGE CALLBACK OR HAVE RESPONDENT CALL US BACK TO COMPLETE THE SURVEY ASAP).**

IF YES – RECORD RESPONDENT RID# OFF RECORD OF CALL SHEET ONTO SURVEY RID AND PROCEED WITH SURVEY.

There are no right or wrong answers, so please be as honest and candid as possible.

SECTION A – GENERAL PLAYING PATTERNS

To begin, we are going to focus only on your play over the past month.

A4. During the last month how many times did you play VLT's? This would include those times when you played more than once in a single day.

________________ ____ ____

A5. In the past month on average how long did you tend to play video lottery games each time you played **(CONVERT TO MINUTES – USE MIDPOINT FOR RANGES)**
(IF "VARIES" ASK "DID YOU INTEND TO PLAY ... (READ LIST).

Specify________________ Minutes ____ ____ ____
(Record Verbatim)

Category ____

< 30 minutes	1
30 – 59 minutes	2
60 – 90 minutes (1 hr – 1.5 hrs)	3
91 – 120 minutes (over 1.5 hrs – 2 hrs)	4
121 – 180 minutes (over 2 hrs – 3hrs)	5
181+ minutes (over 3hrs)	6
(Varies)	7 – **PROBE (SEE ABOVE)**
(Don't know)	9

A6. On average how much did you spend each time you played? This is out-of-pocket not including winnings. **(ROUND TO NEAREST DOLLAR)**

____________________ ____ ____ ____ ____

A8. On a scale of 0 to 10 where 0 means never (0% of the time) and 10 means always (100% of the time), how often did you…

		Never (0 %)									Always (100%)	
a) lose track of time while playing the machines	0	1	2	3	4	5	6	7	8	9	10	____
b) lose track of how much money you are spending while playing the machines.	0	1	2	3	4	5	6	7	8	9	10	____
c) spend more time playing VLT's than you would like.	0	1	2	3	4	5	6	7	8	9	10	____
d) spend more money playing than you would like.	0	1	2	3	4	5	6	7	8	9	10	____
e) cash out and then continue to play?	0	1	2	3	4	5	6	7	8	9	10	____
f) let credits get down to zero before you put in more money?	0	1	2	3	4	5	6	7	8	9	10	____
g) try to win back money that you lost through gambling?	0	1	2	3	4	5	6	7	8	9	10	____

SECTION B

Beginning in May of this year, new VLT machines started to be introduced in Nova Scotia. The new machines have several features which set them apart from the older machines. Some older machines have also been modified to include the new features.

B1. Have you seen or heard anything about the new or modified VLT machines?

YES	**1 - CONTINUE**	
NO	**0 – GO TO B21a**	___

B2b. **IF YES** - Do you know whether or not the following features are on the new and modified machines?

		READ (B2b)
Bill acceptors	1	___
New games	2	___
Play with cash instead of credits	3	___
On-screen clock	4	___
Pop-up reminders (to continue to play)	5	___
5-Minute Cash Out Warning/Mandatory cash out (e.g., at 150 min.)	6	___
Faster speed of play	7	___

B21a. On the new and modified machines, a time of day clock is displayed on the VLT screen at all times. The goal of the permanent clock is to remind players of the time of day. How much do you dislike or like the on-screen clock being available on the machine using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B21b. How much effect do you think the on-screen clock will have on helping you to keep track of the time while you are playing VLT's, using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B22a. On the new and modified machines, a message will pop-up on the VLT screen at 60, 90, & 120 minutes of play reminding the player of how long they have been playing and ask if they wish to continue to play. The player can either press "yes" and continue to play or "no" to cash out. How much do you dislike or like the **60 minute pop-up reminder** being available on the machine using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B22b. How much effect do you think the **60 minute pop-up reminder** will have on helping you to keep track of the time while you are playing VLT's, using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B23a. How much do you dislike or like the **90 minute pop-up reminder** being available using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B23b. How much effect do you think the **90 minute pop-up reminder** will have on helping you to keep track of the time while you are playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B24a. How much do you dislike or like the **120 minute pop-up reminder** being available using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B24b. How much effect do you think the **120 minute pop-up reminder** will have on helping you to keep track of the time while you are playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B25a. On the new and modified machines, the player will be required to cash-out after 150 minutes. The player will be given a **5-Minute Warning (through a pop-up window)** prior to this taking place. The goal of the mandatory cash-out requirement is to put an end to play and provide an opportunity for the player to leave the machine. How much do you dislike or like the **5 minute automatic cash out warning** being available, using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B25b. How much effect do you think the **5 minute automatic cash out warning** will have on ending your VLT play using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B26a. How much do you dislike or like the **automatic cash out feature** being available using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B26b. How much effect do you think the **automatic cash out feature** will have on ending your VLT play using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B27a. On the new and modified machines, amounts wagered are displayed in **dollars and cents** to add an extra element of reality and awareness. On the older machines amounts wagered are presented in credits. The goal of the dollar amounts on the screen is to make people more aware of how much they have wagered in actual dollar terms. How much do you dislike or like playing with **cash amounts** using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B27b. How much effect do you think that playing with **cash amounts** will have on helping you to keep track of how much money you are spending while playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B28a. The new and modified terminals also have **bill acceptors**, which accept paper money. The older machines only accept quarters, loonies and toonies. How much do you dislike or like having the **bill acceptor** available on the machines using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B28b. How much effect do you think that the **bill acceptor** will have on helping you to keep track of how much money you are spending while playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B3. Have you tried any of the new or modified machines (any of the machines with a bill acceptor on it)?

YES	**1 – GO TO B4**	
NO	**0 – CONTINUE**	___

B3a. Why haven't you tried any of the new or modified machines?

Lack of access/machine never free	1	
No new or modified machines at location	2	___
Dislike the new or modified machines	3	
Disinterested in the new machines/only play my usual game	4	
Other **(SPECIFY)**________________________	5	

(GO TO SECTION C – PAGE 8)

B4. **IF B3=YES** – How many times have you ever played any of the new or modified machines? **(CAN'T EQUAL 0)**

________________________________ ____

B4a. In the last month how many times have you played any of the new or modified machines? **(CHECK – MUST BE LESS THAN OR EQUAL TO A4)**

________________________________ ____

IF > 0 GO TO B5b

B4d. **IF B4a=0** – Why haven't you tried any of the new or modified machines in the past month?

Lack of access/machine never free	1	
No new or modified machines at location	2	____
Dislike the new or modified machines	3	
Disinterested in the new machines/only play my usual game	4	
Other **(SPECIFY)**____________________	5	

B5b. On a scale of 1 to 5 where 1 means never and 5means continuously, how often did you refer to the clock while you were playing?

Never				Continuously	
1	2	3	4	5	____

B6a. When playing the new or modified machines have you seen any messages come up on the screen telling you how long you had been playing and asking if you wanted to continue to play or warning you of the mandatory cash out?

YES	1 – **SPECIFY BELOW**	
NO	0 – **GO TO B8**	____

B6b. **IF YES TO B6a** – Which of the time messages have you seen while playing VLT's? **(READ LIST)**

60 minutes message	1	____
90 minutes message	2	____
120 minutes message	3	____
5 minute cash out warning at 145 minutes	4	____
Automatic cash out at 150 minutes	5	____

B8. Overall on a scale of 1 to 5 where 1 means you like the new or modified machines much less than the old machines and 5 means you like them much more, how much do you like the new or modified machines compared to the old VLT's?

Like much less				Like much more	
1	2	3	4	5	____

B9a. What, if anything, do you **like** about the new or modified machines?

____ ___ ___

____ ___ ___

____ ___ ___

B9b. What, if anything, do you **dislike** about the new or modified machines?

____ ___ ___

____ ___ ___

____ ___ ___

____ ___ ___

SECTION C

Now we are going to focus on only the last time you played the machines. We understand that it may be difficult to provide exact answers so estimates are fine but please try to be as accurate as possible and only refer to the last time you played, not how you usually or typically play.

C1a. When was the last time you played?

Day of week: ________________________ ___
(Monday = 1 to Sunday = 7)

Date: ______________ ___ ___
(1st to 31st)

Month: ____________________ ___ ___
(May = 05, June = 06)

C1b. Where did you play?

Location name: ____________________________ ___ ___

Town/City/Area: ___________________________ ___ ___
(Use Codes Below)

Halifax = 1
Dartmouth = 2
Bedford/Sackville = 3
Halifax County = 4
Bridgewater = 10
Chester = 11
Yarmouth = 12
Other South Shore = 13
Port Hawkesbury = 20
Pictou = 21
New Glasgow = 22
Other Northeast = 23

C2a. (The last time you played) Were you at the location to specifically play the machines or were you there for other reasons and ended up playing?

Specifically to play the machine	1
For other reasons	2

___

C2b. Did you play alone or with friends or family members on the same or a nearby machine (the last time you played) ?

Playing alone	1	
With friends/family members on the same machine	2	___
With friends/family members on nearby machine(s)	3	

C3. What games did you play?

________________________________ ___ ___

________________________________ ___ ___

________________________________ ___ ___

________________________________ ___ ___

C4a. Did the machine that you played on have a bill acceptor?

YES	**1 - CONTINUE**	
NO	**2 – GO TO C5a**	___

C4b. Did you use the bill acceptor only, coins only, or did you use both (the last time you played)?

Bill acceptor only	1	
Coins only	2	___
Both	3	

C4c. The last time you played did you see any message come up on your screen telling you how long you had been playing and asking if you wanted to continue play?

Yes	1	
No	0 **-- GO TO C5a**	___

C4d. **IF YES TO C4c** – Which of the time messages did you see? **(READ LIST)**
(NOTE: CHECK ANSWER WITH C6b & C7c)

60 minutes message	1	___
90 minutes message	2	___
120 minutes message	3	___
5 minute cash out warning at 145 minutes	4	___
Automatic cash out at 150 minutes	5	___

C5a. This last time you played, how much money did you put into the machines when you first started to play? **(ROUND TO NEAREST DOLLAR)**

________________________________ $ ___ ___ ___

C5b. How many times did you put more money into the machine while you were playing (again, for the last time you played)?

_______________ times ___ ___

C5c. Was this more, less or about the same amount of times you usually put money into the machines?

More times	1	
About the same	2	___
Less	3	

C6a. What time of day did you start to play? ___________ ___ ___ : ___ ___
(USE 24 HOUR CLOCK)

C6b. In total, how long did you play (the last time you played)?
(CONVERT TO MINUTES)

_______________ minutes ___ ___ ___

C7a. The last time you played, how many times did you do any of the following. First of all …

	# of times
1. Cash out	_____ times
2. Let credits or money on the machine go down to zero before putting in more money or stopping	_____ times
3. Take a break or stop temporarily to do something else	_____ times
4. Switch machines	_____ times

(IF TOTAL = 1 THEN GO TO C8A)

C7b. How long after you started play did you first do any one of these behaviours? **(i.e Which of these events happened first and how quickly did it happen?)**
(CONVERT TO MINUTES)

_______________ ___ ___ ___

IF C7b = C6b THEN GO TO C8A

C7c. **(CHECK C4d &C6b)** Of the ______ minutes you played, what was the longest period of time you continuously played the game without cashing out, or having the credits or cash go down to zero, or stopping play? **(PROBE: How long were you able to continuously play before you cashed out or went down to zero and had to put in more money) (RECORD IN MINUTES)**

_______________ minutes ___ ___ ___
CAN NOT BE LESS THAN C4D &
CAN NOT BE MORE THAN C6B

C8a. Was the total amount of time more, less or about the same amount of time you intended to play?

More	1	
About the same	2	___
Less	3	

C8b. On a scale of 0 to 10 where 0 means never (0 % of the time) and 10 means always (100% of the time), how often did you lose track of time while you were playing?

Never (0 % of time)									Always (100% of time)		
0	1	2	3	4	5	6	7	8	9	10	___

C9. Why did you stop playing?

____ ___ ___

____ ___ ___

____ ___ ___

____ ___ ___

C10a. When you finished playing were you …

Up any amount of money (won more than you spent out of pocket)	1 - **CONTINUE**	
Broke even (won back the same amount of money as you spent)	2 – **GO TO C10E**	___
Lost (spent more money out of pocket than you won)	3 – **GO TO C10C**	

C10b. How much money did you walk away with in addition to the amount you had put into the machine to play out of your own money? (How much money did you win not including the money you put into the machine out of your own pocket).

____________________ $ ___ ___ ___

C10c. How much money did you spend out-of-pocket (excluding winnings)?

____________________ $ ___ ___ ___

C10d. Is this amount more, less or about the same amount you intended or wanted to spend?

More	1	
About the same	2	___
Less	3	

C10e. On a scale of 1 to 10 where 1 means never (0% of the time) and 10 means always (100% of the time), how often while you were playing did you lose track of how much you were spending?

Never (0 % of time)									Always (100% of time)	
1	2	3	4	5	6	7	8	9	10	___

SECTION D

We are almost completed the survey I just have a few more questions to assist us in analyzing the information you have provided.

D4. In general, on a scale of 1 to 10 where 1 means your VL play is not at all a problem and 10 means your VL play is a serious problem, how would you rate your VL play right now?

Not at all a problem									Serious problem	
1	2	3	4	5	6	7	8	9	10	___

Demographics

Since you participated in the first survey with us in June 2001, has there been a change in any of the following circumstances for you.

D8a. First of all, has there been any change in your marital status?

No	0 – **GO TO D9a**	
Yes	1-- **CONTINUE**	___

D8b. **IF YES**, what is your current marital status?

Single	1	
Married/Cohabitating/Living with a partner	2	___
Divorced/Separated	3	
Widowed	4	

D9a. Has there been any change in your work status?

No	0 – **GO TO D12a**	
Yes	1-- **CONTINUE**	___

D9b. **IF YES,** Which of the following best describes your current work status?

Working Full-time	**1 - CONTINUE**	
Working Part-time	**2 - CONTINUE**	___
Unemployed	**3 - GO TO D12a**	
Student	**4 - GO TO D12a**	
Homemaker	**5 - GO TO D12a**	
Retired	**6 - GO TO D12a**	
Disabled	**7 - GO TO D12a**	

D10a. What is your current occupation (i.e. the type of work you do)?

____ ___ ___

D12a. Has there been any changes in your annual household income -- that is your income from everyone in your household combined before taxes?

No	0 – **GO TO CLOSING STATEMENT**	
Yes	1-- **CONTINUE**	___

D12b. **IF YES,** Which of the following broad income categories best describes your total annual household income (that is, everyone combined, before taxes)? **(READ LIST)**

Less than $10,000	1	
$10,000 - $25,000	2	
$25,001 - $35,000	3	
$35,001 - $45,000	4	___
$45,001 - $60,000	5	
$60,001 - $75,000	6	
Over $75,000	7	
Refused	8	
Don't Know	9	

CLOSING STATEMENT

On behalf of Focal Research, thank you for your participation. Your contribution to this important research is very valuable and appreciated. We will be recontacting you in approximately two months to complete a short follow up survey. Will we still be able to reach you at this number?

YES	1	
NO	2	___

IF NO, is there a number where you can be reached at that time?
(RECORD NEW NUMBER)

____

You may receive a quality control check. My supervisor calls back 10% to 15% of all my completed surveys to ensure you were comfortable participating in our study and that I was doing my job properly. May I please confirm your telephone number?

____

TELEPHONE #: ____________________ DATE: ________________

INTERVIEWER: ____________________ SUPERVISOR: ____________

DATA ENTRY: ________________ QCC: ____________

Again thank you, we look forward to talking with you in October.

22-0552

VL RGF Research
Post-Survey 2

(Survey) ID: ___ ___ ___ ___

RID: ___ ___ ___

Phase: __3_

Interviewer ID: ___ ___

November 16, 2001

VERSION 3

AREA:HRM	1	
South Shore	2	
Northern	3	___

INTRODUCTION

May I please speak to ________________. **(IF RESPONDENT IS NOT AVAILABLE ARRANGE CALL BACK - IF QUESTIONED INDICATE RESPONDENT AGREED TO PARTICIPATE IN LEISURE ACTIVITIES STUDY BEING CONDUCTED IN NOVA SCOTIA).**

Hello my name is ________________, I'm calling from Focal Research, a professional research firm in Halifax, Nova Scotia. In August/September you had been kind enough to take part in a study on video lottery gaming and agreed to be re-contacted. The purpose of the current study is to track various video lottery play behaviours. The survey takes approximately 15 minutes and your answers are completely confidential. We must complete the survey with you as soon as possible. Are you able to take part right now or would you prefer to arrange a time when you have more time and/or privacy to participate. **(IF NECESSARY ARRANGE CALLBACK OR HAVE RESPONDENT CALL US BACK TO COMPLETE THE SURVEY ASAP).**

IF YES – RECORD RESPONDENT RID# OFF RECORD OF CALL SHEET ONTO SURVEY RID AND PROCEED WITH SURVEY.

There are no right or wrong answers, so please be as honest and candid as possible.

SECTION A – GENERAL PLAYING PATTERNS

To begin, we are going to focus only on your play over the past month.

A4. During the last month how many times did you play VLT's? This would include those times when you played more than once in a single day.

________________ ___ ___

A4b. **IF HAVEN'T PLAYED IN THE PAST MONTH** - Why haven't you played video lottery in the past month?

____ ___ ___

____ ___ ___

____ ___ ___

IF DID NOT PLAY IN LAST MONTH – GO TO INTRODUCTION FOR A11

A5. In the past month on average how long did you tend to play video lottery games each time you played **(CONVERT TO MINUTES – USE MIDPOINT FOR RANGES)**
(IF "VARIES" ASK "DID YOU INTEND TO PLAY ... (READ LIST).

Specify__________________ Minutes ___ ___ ___
(Record Verbatim)

< 30 minutes	1	Categor ___
30 – 59 minutes	2	
60 – 90 minutes (1 hr – 1.5 hrs)	3	
91 – 120 minutes (over 1.5 hrs – 2 hrs)	4	
121 – 180 minutes (over 2 hrs – 3hrs)	5	
181+ minutes (over 3hrs)	6	
(Varies)	7 – **PROBE (SEE ABOVE)**	
(Don't know)	9	

A6. On average how much did you spend each time you played? This is out-of-pocket not including winnings. **(ROUND TO NEAREST DOLLAR)**

__________________ ___ ___ ___ ___

A8. On a scale of 0 to 10 where 0 means never (0% of the time) and 10 means always (100% of the time), how often did you…

	Never (0 %)										Always (100%)	
a) lose track of time while playing the machines	0	1	2	3	4	5	6	7	8	9	10	___
b) lose track of how much money you are spending while playing the machines.	0	1	2	3	4	5	6	7	8	9	10	___
c) spend more time playing VLT's than you would like.	0	1	2	3	4	5	6	7	8	9	10	___
d) spend more money playing than you would like.	0	1	2	3	4	5	6	7	8	9	10	___
e) cash out and then continue to play?	0	1	2	3	4	5	6	7	8	9	10	___
f) let credits get down to zero before you put in more money?	0	1	2	3	4	5	6	7	8	9	10	___
g) try to win back money that you lost through gambling?	0	1	2	3	4	5	6	7	8	9	10	___

The next set of questions is part of a standard series of questions that have recently been used throughout Canada in surveys similar to this one. Again, there are no right or wrong answers and I want to reassure you that your answers are confidential and anonymous. We simply want to know about your experiences. Please try to be as accurate as possible.

Thinking about the last twelve months only, that would be since last October…

A11. Have you bet more than you could really afford to lose?
Would you say:

Never	1
Sometimes	2
Most of the time	3
Almost always	4
Refused	8
Don't know	9

______

A12. Have you needed to gamble with larger amounts of money to get the same feeling of excitement?

Never	1
Sometimes	2
Most of the time	3
Almost always	4
Refused	8
Don't know	9

______

A13. When you gambled, did you go back another day to try and win back the money you lost?

Never	1
Sometimes	2
Most of the time	3
Almost always	4
Refused	8
Don't know	9

______

A14. Have you borrowed money or sold anything to get money to gamble?

Never	1
Sometimes	2
Most of the time	3
Almost always	4
Refused	8
Don't know	9

______

A15. Have you felt that you might have a problem with gambling?

Never	1
Sometimes	2
Most of the time	3
Almost always	4
Refused	8
Don't know	9

______

A16. Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?

Never	1
Sometimes	2
Most of the time	3
Almost always	4
Refused	8
Don't know	9

______

A17. Have you ever felt guilty about the way you gamble, or what happens when you gamble?

Never	1
Sometimes	2
Most of the time	3
Almost always	4
Refused	8
Don't know	9

______

A18. Has gambling caused you any health problems, including stress or anxiety?

Never	1
Sometimes	2
Most of the time	3
Almost always	4
Refused	8
Don't know	9

______

A19. Has your gambling caused any financial problems for you or your household?

Never	1
Sometimes	2
Most of the time	3
Almost always	4
Refused	8
Don't know	9

______

SECTION B

Beginning in May of this year, new VLT machines started to be introduced in Nova Scotia. The new machines have several features which set them apart from the older machines. Some older machines have also been modified to include the new features.

B1. Have you seen or heard anything about the new or modified VLT machines?

YES	**1 - CONTINUE**
NO	**0 – GO TO B21a**

___

B2b. **IF YES** - Do you know whether or not the following features are on the new and modified machines?

		READ (B2b)
Bill acceptors	1	___
New games	2	___
Play with cash instead of credits	3	___
On-screen clock	4	___
Pop-up reminders (to continue to play)	5	___
5-Minute Cash Out Warning/Mandatory cash out (e.g., at 150 min.)	6	___
Faster speed of play	77	___

B21a. On the new and modified machines, a time of day clock is displayed on the VLT screen at all times. The goal of the permanent clock is to remind players of the time of day. How much do you dislike or like the on-screen clock being available on the machine using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B21b. How much effect do you think the on-screen clock will have on helping you to keep track of the time while you are playing VLT's, using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B22a. On the new and modified machines, a message will pop-up on the VLT screen at 60, 90, & 120 minutes of play reminding the player of how long they have been playing and ask if they wish to continue to play. The player can either press "yes" and continue to play or "no" to cash out. How much do you dislike or like the **60 minute pop-up reminder** being available on the machine using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B22b. How much effect do you think the **60 minute pop-up reminder** will have on helping you to keep track of the time while you are playing VLT's, using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B23a. How much do you dislike or like the **90 minute pop-up reminder** being available using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B23b. How much effect do you think the **90 minute pop-up reminder** will have on helping you to keep track of the time while you are playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B24a. How much do you dislike or like the **120 minute pop-up reminder** being available using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B24b. How much effect do you think the **120 minute pop-up reminder** will have on helping you to keep track of the time while you are playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B25a. On the new and modified machines, the player will be required to cash-out after 150 minutes. The player will be given a **5-Minute Warning (through a pop-up window)** prior to this taking place. The goal of the mandatory cash-out requirement is to put an end to play and provide an opportunity for the player to leave the machine. How much do you dislike or like the **5 minute automatic cash out warning** being available, using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B25b. How much effect do you think the **5 minute automatic cash out warning** will have on ending your VLT play using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B26a. How much do you dislike or like the **automatic cash out feature** being available using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B26b. How much effect do you think the **automatic cash out feature** will have on ending your VLT play using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B27a. On the new and modified machines, amounts wagered are displayed in **dollars and cents** to add an extra element of reality and awareness. On the older machines amounts wagered are presented in credits. The goal of the dollar amounts on the screen is to make people more aware of how much they have wagered in actual dollar terms. How much do you dislike or like playing with **cash amounts** using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B27b. How much effect do you think that playing with **cash amounts** will have on helping you to keep track of how much money you are spending while playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B28a. The new and modified terminals also have **bill acceptors**, which accept paper money. The older machines only accept quarters, loonies and toonies. How much do you dislike or like having the **bill acceptor** available on the machines using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B28b. How much effect do you think that the **bill acceptor** will have on helping you to keep track of how much money you are spending while playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B3. Have you tried any of the new or modified machines (any of the machines with a bill acceptor on it)?

YES	**1 – GO TO B4**	
NO	**0 – CONTINUE**	___

B3a. Why haven't you tried any of the new or modified machines?

Lack of access/machine never free	1	
No new or modified machines at location	2	___
Dislike the new or modified machines	3	
Disinterested in the new machines/only play my usual game	4	
Other (SPECIFY)________________________	5	

(GO TO SECTION C – PAGE 9)

B4. **IF B3=YES** – How many times have you ever played any of the new or modified machines? **(CAN'T EQUAL 0)**

______________________________ ____

IF RESPONDENT HAS NOT PLAYED VL IN THE LAST MONTH GO TO B4d

B4a. In the last month how many times have you played any of the new or modified machines? **(CHECK – MUST BE LESS THAN OR EQUAL TO A4)**

______________________________ ____

IF > 0 GO TO B5b

B4d. **IF B4a=0 or A4=0** – Why haven't you tried any of the new or modified machines in the past month?

Lack of access/machine never free	1	
No new or modified machines at location	2	____
Dislike the new or modified machines	3	
Disinterested in the new machines/only play my usual game	4	
Other **(SPECIFY)**________________________	5	

B5b. On a scale of 1 to 5 where 1 means never and 5 means continuously, how often did you refer to the clock while you were playing?

Never				Continuously	
1	2	3	4	5	____

B6a. When playing the new or modified machines have you seen any messages come up on the screen telling you how long you had been playing and asking if you wanted to continue to play or warning you of the mandatory cash out?

YES	1 – **SPECIFY BELOW**	
NO	0 – **GO TO B8**	____

B6b. **IF YES TO B6a** – Which of the time messages have you seen while playing VLT's? **(READ LIST)**

60 minutes message	1	____
90 minutes message	2	____
120 minutes message	3	____
5 minute cash out warning at 145 minutes	4	____
Automatic cash out at 150 minutes	5	____

B8. Overall on a scale of 1 to 5 where 1 means you like the new or modified machines much less than the old machines and 5 means you like them much more, how much do you like the new or modified machines compared to the old VLT's?

Like much less				Like much more	
1	2	3	4	5	____

B9a. What, if anything, do you **like** about the new or modified machines?

____ ___ ___

____ ___ ___

____ ___ ___

B9b. What, if anything, do you **dislike** about the new or modified machines?

____ ___ ___

____ ___ ___

____ ___ ___

____ ___ ___

IF RESPONDENT HAS NOT PLAYED VL IN THE LAST MONTH GO TO SECTION D – PAGE 13

SECTION C

Now we are going to focus on only the last time you played the machines. We understand that it may be difficult to provide exact answers so estimates are fine but please try to be as accurate as possible and only refer to the last time you played, not how you usually or typically play.

C1a. When was the last time you played?

Day of week: ____________________ ___
(Monday = 1 to Sunday = 7)

Date: ____________ ___ ___
(1st to 31st)

Month: ______________ ___ ___
(Oct = 10, Nov = 11)

C1b. Where did you play?

Location name: ____________________ ___ ___

Town/City/Area: ____________________ ___ ___
(Use Codes Below)

Halifax = 1
Dartmouth = 2
Bedford/Sackville = 3
Halifax County = 4

Bridgewater = 10
Chester = 11
Yarmouth = 12
Other South Shore = 13

Port Hawkesbury = 20
Pictou = 21
New Glasgow = 22
Other Northeast = 23

C2a. (The last time you played) Were you at the location to specifically play the machines or were you there for other reasons and ended up playing?

Specifically to play the machine	1	
For other reasons	2	___

C2b. Did you play alone or with friends or family members on the same or a nearby machine (the last time you played) ?

Playing alone	1	
With friends/family members on the same machine	2	___
With friends/family members on nearby machine(s)	3	

C3. What games did you play?

____ ___ ___

____ ___ ___

____ ___ ___

____ ___ ___

C4a. Did the machine that you played on have a bill acceptor?

YES	**1 - CONTINUE**	___
NO	**2 – GO TO C5a**	

C4b. Did you use the bill acceptor only, coins only, or did you use both (the last time you played)?

Bill acceptor only	1	
Coins only	2	___
Both	3	

C4c. The last time you played did you see any message come up on your screen telling you how long you had been playing and asking if you wanted to continue play?

Yes	1	
No	0 – **GO TO C5a**	___

C4d. **IF YES TO C4c** – Which of the time messages did you see? **(READ LIST)**
(NOTE: *CHECK ANSWER WITH C6b & C7c)

60 minutes message	1	___
90 minutes message	2	___
120 minutes message	3	___
5 minute cash out warning at 145 minutes	4	___
Automatic cash out at 150 minutes	5	___

C5a. This last time you played, how much money did you put into the machines when you first started to play? **(ROUND TO NEAREST DOLLAR)**

____ $ ___ ___ ___

C5b. How many times did you put more money into the machine while you were playing (again, for the last time you played)?

__________________ times ___ ___

C5c. Was this more, less or about the same amount of times you usually put money into the machines?

More times	1	
About the same	2	___
Less	3	

C6a. What time of day did you start to play? ____________ ___ ___ : ___ ___
(USE 24 HOUR CLOCK)

C6b. In total, how long did you play (the last time you played)?
(CONVERT TO MINUTES)

____ minutes ___ ___ ___
(*CHECK: THIS CAN NOT BE LESS THAN C4D)

C7a. The last time you played, how many times did you do any of the following. First of all …

	# of times
5. Cash out	_____ times
6. Let credits or money on the machine go down to zero before putting in more money or stopping	_____ times
7. Take a break or stop temporarily to do something else	_____ times
8. Switch machines	_____ times

(IF TOTAL = 1 THEN GO TO C8A)

C7b. How long after you started play did you first do any one of these behaviours? **(i.e Which of these events happened first and how quickly did it happen?)**
(CONVERT TO MINUTES)

______________________________ ___ ___ ___

IF C7b = C6b THEN GO TO C8A

C7c. **(CHECK C4d &C6b)** Of the ______ minutes you played, what was the longest period of time you continuously played the game without cashing out, or having the credits or cash go down to zero, or stopping play? **(PROBE: How long were you able to continuously play before you cashed out or went down to zero and had to put in more money) (RECORD IN MINUTES)**

__________________ minutes ___ ___ ___
***CAN NOT BE LESS THAN C4D &**
***CAN NOT BE MORE THAN C6B**

C8a. Was the total amount of time more, less or about the same amount of time you intended to play?

More	1
About the same	2
Less	3

___

C8b. On a scale of 0 to 10 where 0 means never (0 % of the time) and 10 means always (100% of the time) , how often did you lose track of time while you were playing?

Never (0 % of time)									Always (100% of time)	
0	1	2	3	4	5	6	7	8	9	10

___

C9. Why did you stop playing?

______________________________ ___ ___
______________________________ ___ ___
______________________________ ___ ___
______________________________ ___ ___

C10a. When you finished playing were you …

Up any amount of money (won more than you spent out of pocket)	1 **- CONTINUE**
Broke even (won back the same amount of money as you spent)	2 – **GO TO C10E**
Lost (spent more money out of pocket than you won)	3 – **GO TO C10C**

___

C10b. How much money did you walk away with in addition to the amount you had put into the machine to play out of your own money? (How much money did you win not including the money you put into the machine out of your own pocket).

______________________ $ ___ ___ ___

C10c. How much money did you spend out-of-pocket (excluding winnings)?

______________________ $ ___ ___ ___

C10d. Is this amount more, less or about the same amount you intended or wanted to spend?

More	1
About the same	2
Less	3

___

C10e. On a scale of 0 to 10 where 0 means never (0% of the time) and 10 means always (100% of the time), how often while you were playing did you lose track of how much you were spending?

Never (0 % of time)										Always (100% of time)	
0	1	2	3	4	5	6	7	8	9	10	___

SECTION D

We are almost completed the survey I just have a few more questions to assist us in analyzing the information you have provided.

D4. In general, on a scale of 1 to 10 where 1 means your VL play is not at all a problem and 10 means your VL play is a serious problem, how would you rate your VL play right now?

Not at all a problem									Serious problem	
1	2	3	4	5	6	7	8	9	10	___

Demographics

Since you participated in the second survey with us in August/September 2001, has there been a change in any of the following circumstances for you.

D8a. First of all, has there been any change in your marital status?

No	0 – **GO TO D9a**	
Yes	1-- **CONTINUE**	___

D8b. **IF YES**, what is your current marital status?

Single	1	
Married/Cohabitating/Living with a partner	2	___
Divorced/Separated	3	
Widowed	4	

D9a. Has there been any change in your work status?

No	0 – **GO TO D12a**	
Yes	1-- **CONTINUE**	___

D9b. **IF YES**, Which of the following best describes your current work status?

Working Full-time	1 - **CONTINUE**	
Working Part-time	2 - **CONTINUE**	___
Unemployed	3 - **GO TO D12a**	
Student	4 - **GO TO D12a**	
Homemaker	5 - **GO TO D12a**	
Retired	6 - **GO TO D12a**	
Disabled	7 - **GO TO D12a**	

D10a. What is your current occupation (i.e. the type of work you do)?

____ ___ ___

D12a. Has there been any changes in your annual household income -- that is your income from everyone in your household combined before taxes?

No	0 – **GO TO CLOSING STATEMENT**	
Yes	1-- **CONTINUE**	___

D12b. **IF YES,** Which of the following broad income categories best describes your total annual household income (that is, everyone combined, before taxes)? **(READ LIST)**

Less than $10,000	1	
$10,000 - $25,000	2	
$25,001 - $35,000	3	
$35,001 - $45,000	4	___
$45,001 - $60,000	5	
$60,001 - $75,000	6	
Over $75,000	7	
Refused	8	
Don't Know	9	

CLOSING STATEMENT

On behalf of Focal Research, thank you for your participation. Your contribution to this important research is very valuable and appreciated. We will be recontacting you in approximately two months to complete a short final survey. Will we still be able to reach you at this number?

YES	1	
NO	2	___

IF NO, is there a number where you can be reached at that time?
(RECORD NEW NUMBER)

____

You may receive a quality control check. My supervisor calls back 10% to 15% of all my completed surveys to ensure you were comfortable participating in our study and that I was doing my job properly. May I please confirm your telephone number?

____

TELEPHONE #: ______________________ DATE: __________________

INTERVIEWER: ______________________ SUPERVISOR: ___________

DATA ENTRY: ________________ QCC: __________

Again thank you, we look forward to talking with you in January.

22-0652

(Survey) ID: ___ ___ ___ ___

VL RGF Research
Post-Survey 3

RID: ___ ___ ___

Phase: __4_

Interviewer ID: ___ ___

January 16, 2002

VERSION 1

AREA:HRM	1	
South Shore	2	
Northern	3	___

INTRODUCTION

May I please speak to _______________. **(IF RESPONDENT IS NOT AVAILABLE ARRANGE CALL BACK - IF QUESTIONED INDICATE RESPONDENT AGREED TO PARTICIPATE IN LEISURE ACTIVITIES STUDY BEING CONDUCTED IN NOVA SCOTIA).**

Hello my name is ________________, I'm calling from Focal Research, a professional research firm in Halifax, Nova Scotia. In November 2001 you had been kind enough to take part in a study on video lottery gaming and agreed to be re-contacted. The current survey is the final phase in a study designed to track various video lottery play behaviours. The survey takes approximately 15 minutes and your answers are completely confidential. We must complete the survey with you as soon as possible. Are you able to take part right now or would you prefer to arrange a time when you have more time and/or privacy to participate. **(IF NECESSARY ARRANGE CALLBACK OR HAVE RESPONDENT CALL US BACK TO COMPLETE THE SURVEY ASAP).**

IF YES – RECORD RESPONDENT RID# OFF RECORD OF CALL SHEET ONTO SURVEY RID AND PROCEED WITH SURVEY.

There are no right or wrong answers, so please be as honest and candid as possible.

SECTION A – GENERAL PLAYING PATTERNS

To begin, we are going to focus only on your play over the past month.

A4. During the last month how many times did you play VLT's? This would include those times when you played more than once in a single day.

________________ ___ ___

A4b. **IF HAVEN'T PLAYED IN THE PAST MONTH** - Why haven't you played video lottery in the past month?

____ ___ ___

____ ___ ___

____ ___ ___

IF DID NOT PLAY IN LAST MONTH – GO TO A10

A5. In the past month on average how long did you tend to play video lottery games each time you played **(CONVERT TO MINUTES – USE MIDPOINT FOR RANGES)**
(IF "VARIES" ASK "DID YOU INTEND TO PLAY … (READ LIST).

Specify__________________ Minutes ____ ____ ____
(Record Verbatim)

< 30 minutes	1	Category ____
30 – 59 minutes	2	
60 – 90 minutes (1 hr – 1.5 hrs)	3	
91 – 120 minutes (over 1.5 hrs – 2 hrs)	4	
121 – 180 minutes (over 2 hrs – 3hrs)	5	
181+ minutes (over 3hrs)	6	
(Varies)	7 – **PROBE (SEE ABOVE)**	
(Don't know)	9	

A6. On average how much did you spend each time you played? This is out-of-pocket not including winnings. **(ROUND TO NEAREST DOLLAR)**

__________________ ____ ____ ____ ____

A8. On a scale of 0 to 10 where 0 means never (0% of the time) and 10 means always (100% of the time), how often did you…

	Never (0 %)										Always (100%)	
a) lose track of time while playing the machines	0	1	2	3	4	5	6	7	8	9	10	____
b) lose track of how much money you are spending while playing the machines.	0	1	2	3	4	5	6	7	8	9	10	____
c) spend more time playing VLT's than you would like.	0	1	2	3	4	5	6	7	8	9	10	____
d) spend more money playing than you would like.	0	1	2	3	4	5	6	7	8	9	10	____
e) cash out and then continue to play?	0	1	2	3	4	5	6	7	8	9	10	____
f) let credits get down to zero before you put in more money?	0	1	2	3	4	5	6	7	8	9	10	____
g) try to win back money that you lost through gambling?	0	1	2	3	4	5	6	7	8	9	10	____

A10. I'm going to read you a series of statements about video lottery and I would like you to tell me whether you agree or disagree with each one. Using a scale of 1 to 5, where 1 means strongly disagree and 5 means strongly agree. How much do you agree or disagree with each of the following? **(ROTATE ORDER IN SETS)**

		Strongly Disagree				Strongly Agree	
( )	a) I have friends or family members who worry or complain about me playing VL games.	1	2	3	4	5	___
	b) I sometimes feel guilty about how much time I spend playing VL games.	1	2	3	4	5	___
	c) I play video lottery to forget my troubles or worries.	1	2	3	4	5	___
( )	d) I would like to reduce the amount of time I spend playing VLT's.	1	2	3	4	5	___
	e) My friends or family and I enjoy playing VL games when we go out together.	1	2	3	4	5	___
	f) I sometimes feel guilty about the amount of money I spend on VLT's.	1	2	3	4	5	___
( )	g) Video lottery games are a fun and entertaining way for me to pass time.	1	2	3	4	5	___
	h) I have lied about my VL gambling.	1	2	3	4	5	___
	i) My VL play has put a strain on my relationships at home.	1	2	3	4	5	___

SECTION B

Beginning in May of this year, new VLT machines started to be introduced in Nova Scotia. The new machines have several features which set them apart from the older machines. Some older machines have also been modified to include the new features.

B1. Have you seen or heard anything about the new or modified VLT machines?

YES	**1 - CONTINUE**
NO	**0 – GO TO B21a**

___

B2b. **IF YES** - Do you know whether or not the following features are on the new and modified machines?

		READ (B2b)
Bill acceptors	1	___
New games	2	___
Play with cash instead of credits	3	___
On-screen clock	4	___
Pop-up reminders (to continue to play)	5	___
5-Minute Cash Out Warning/Mandatory cash out (e.g., at 150 min.)	6	___
Faster speed of play	77	___

B21a. On the new and modified machines, a time of day clock is displayed on the VLT screen at all times. The goal of the permanent clock is to remind players of the time of day. How much do you dislike or like the on-screen clock being available on the machine using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B21b. How much effect do you think the on-screen clock will have on helping you to keep track of the time while you are playing VLT's, using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B22a. On the new and modified machines, a message will pop-up on the VLT screen at 60, 90, & 120 minutes of play reminding the player of how long they have been playing and ask if they wish to continue to play. The player can either press "yes" and continue to play or "no" to cash out. How much do you dislike or like the **60 minute pop-up reminder** being available on the machine using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like	
1	2	3	4	5	___

B22b. How much effect do you think the **60 minute pop-up reminder** will have on helping you to keep track of the time while you are playing VLT's, using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect	
1	2	3	4	5	___

B23a. How much do you dislike or like the **90 minute pop-up reminder** being available using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike Strongly Like
1 2 3 4 5 ___

B23b. How much effect do you think the **90 minute pop-up reminder** will have on helping you to keep track of the time while you are playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect Strong Effect
1 2 3 4 5 ___

B24a. How much do you dislike or like the **120 minute pop-up reminder** being available using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike Strongly Like
1 2 3 4 5 ___

B24b. How much effect do you think the **120 minute pop-up reminder** will have on helping you to keep track of the time while you are playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means Strong Effect?

No Effect Strong Effect
1 2 3 4 5 ___

B25a. On the new and modified machines, the player will be required to cash-out after 150 minutes. The player will be given a **5-Minute Warning (through a pop-up window)** prior to this taking place. The goal of the mandatory cash-out requirement is to put an end to play and provide an opportunity for the player to leave the machine. How much do you dislike or like the **5 minute automatic cash out warning** being available, using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike Strongly Like
1 2 3 4 5 ___

B25b. How much effect do you think the **5 minute automatic cash out warning** will have on ending your VLT play using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect Strong Effect
1 2 3 4 5 ___

B26a. How much do you dislike or like the **automatic cash out feature** being available using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike Strongly Like
1 2 3 4 5 ___

B26b. How much effect do you think the **automatic cash out feature** will have on ending your VLT play using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect Strong Effect
1 2 3 4 5 ___

B27a. On the new and modified machines, amounts wagered are displayed in **dollars and cents** to add an extra element of reality and awareness. On the older machines amounts wagered are presented in credits. The goal of the dollar amounts on the screen is to make people more aware of how much they have wagered in actual dollar terms. How much do you dislike or like playing with **cash amounts** using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like
1	2	3	4	5

B27b. How much effect do you think that playing with **cash amounts** will have on helping you to keep track of how much money you are spending while playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means Strong Effect?

No Effect				Strong Effect
1	2	3	4	5

B28a. The new and modified terminals also have **bill acceptors**, which accept paper money. The older machines only accept quarters, loonies and toonies. How much do you dislike or like having the **bill acceptor** available on the machines using a scale of 1 to 5 where 1 means Strongly Dislike and 5 means Strongly Like?

Strongly Dislike				Strongly Like
1	2	3	4	5

B28b. How much effect do you think that the **bill acceptor** will have on helping you to keep track of how much money you are spending while playing VLT's using a scale of 1 to 5 where 1 means No Effect and 5 means a Strong Effect?

No Effect				Strong Effect
1	2	3	4	5

B3. Have you tried any of the new or modified machines (any of the machines with a bill acceptor on it)?

YES	1 – **GO TO B4**
NO	0 – **CONTINUE**

B3a. Why haven't you tried any of the new or modified machines?

Lack of access/machine never free	1
No new or modified machines at location	2
Dislike the new or modified machines	3
Disinterested in the new machines/only play my usual game	4
Other **(SPECIFY)**________________________	5

(GO TO SECTION C – PAGE 8)

B4. **IF B3=YES** – How many times have you ever played any of the new or modified machines? **(CAN'T EQUAL 0)**

____

IF RESPONDENT HAS NOT PLAYED VL IN THE LAST MONTH GO TO B4d

B4a. In the last month how many times have you played any of the new or modified machines?
(CHECK – MUST BE LESS THAN OR EQUAL TO A4)

IF > 0 GO TO B5b

B4d. **IF B4a=0 or A4=0** – Why haven't you tried any of the new or modified machines in the past month?

Lack of access/machine never free	1
No new or modified machines at location	2
Dislike the new or modified machines	3
Disinterested in the new machines/only play my usual game	4
Other **(SPECIFY)**____________	5

B5b. On a scale of 1 to 5 where 1 means never and 5means continuously, how often did you refer to the clock while you were playing?

Never				Continuously
1	2	3	4	5

B6a. When playing the new or modified machines have you seen any messages come up on the screen telling you how long you had been playing and asking if you wanted to continue to play or warning you of the mandatory cash out?

YES	1	– **SPECIFY BELOW**
NO	0	-- **GO TO B8**

B6b. **IF YES TO B6a** – Which of the time messages have you seen while playing VLT's? **(READ LIST)**

60 minutes message	1
90 minutes message	2
120 minutes message	3
5 minute cash out warning at 145 minutes	4
Automatic cash out at 150 minutes	5

B8. Overall on a scale of 1 to 5 where 1 means you like the new or modified machines much less than the old machines and 5 means you like them much more, how much do you like the new or modified machines compared to the old VLT's?

Like much less				Like much more
1	2	3	4	5

B9a. What, if anything, do you like about the new or modified machines?

B9b. What, if anything, do you **dislike** about the new or modified machines?

______________________________ ___ ___

______________________________ ___ ___

______________________________ ___ ___

B9c. What, if anything, would you like to see changed about the new or modified machines?

______________________________ ___ ___

______________________________ ___ ___

______________________________ ___ ___

B10. Overall, using a scale of 1 to 5 where 1 means No Effect and 5 means Strong Effect, how much effect have the new or modified machines had on reducing the amount of time you spend playing video lottery on a per time basis?

No Effect				Strong Effect	
1	2	3	4	5	___

B11. Overall, using a scale of 1 to 5 where 1 means No Effect and 5 means Strong Effect, how much effect have the new or modified machines had on reducing the amount of money you spend playing video lottery on a per time basis?

No Effect				Strong Effect	
1	2	3	4	5	___

IF RESPONDENT HAS NOT PLAYED VL IN THE LAST MONTH GO TO SECTION D – PAGE 12

SECTION C

Now we are going to focus on only the last time you played the machines. We understand that it may be difficult to provide exact answers so estimates are fine but please try to be as accurate as possible and only refer to the last time you played, not how you usually or typically play.

C1a. When was the last time you played?

Day of week: ______________________ ___
(Monday = 1 to Sunday = 7)

Date: ______________ ___ ___
(1st to 31st)

Month: ____________________ ___ ___
(Dec = 12, Jan = 1)

C1b. Where did you play?

Location name: ____________________ ____ ____

Town/City/Area: ____________________ ____ ____
(Use Codes Below)

Halifax = 1
Dartmouth = 2
Bedford/Sackville = 3
Halifax County = 4
Bridgewater = 10
Chester = 11
Yarmouth = 12
Other South Shore = 13
Port Hawkesbury = 20
Pictou = 21
New Glasgow = 22
Other Northeast = 23

C2a. (The last time you played) Were you at the location to specifically play the machines or were you there for other reasons and ended up playing?

Specifically to play the machine	1
For other reasons	2

____

C2b. Did you play alone or with friends or family members on the same or a nearby machine (the last time you played)?

Playing alone	1
With friends/family members on the same machine	2
With friends/family members on nearby machine(s)	3

____

C3. What games did you play?

____________________ ____ ____

____________________ ____ ____

____________________ ____ ____

____________________ ____ ____

C4a. Did the machine that you played on have a bill acceptor?

YES	**1 - CONTINUE**
NO	**2 – GO TO C5a**

____

C4b. Did you use the bill acceptor only, coins only, or did you use both (the last time you played)?

Bill acceptor only	1
Coins only	2
Both	3

____

C4c. The last time you played did you see any message come up on your screen telling you how long you had been playing and asking if you wanted to continue play?

Yes	1
No	0 -- **GO TO C5a**

____

C4d. **IF YES TO C4c** – Which of the time messages did you see? **(READ LIST)**
(NOTE: *CHECK ANSWER WITH C6b & C7c)

60 minutes message	1	____
90 minutes message	2	____
120 minutes message	3	____
5 minute cash out warning at 145 minutes	4	____
Automatic cash out at 150 minutes 5	____	

C5a. This last time you played, how much money did you put into the machines when you first started to play? **(ROUND TO NEAREST DOLLAR)**

________________________________ $ ___ ___ ___

C5b. How many times did you put more money into the machine while you were playing (again, for the last time you played)?

________________ times ___ ___

C5c. Was this more, less or about the same amount of times you usually put money into the machines?

More times	1	
About the same	2	____
Less	3	

C6a. What time of day did you start to play? ____________ ___ ___ : ___ ___
(USE 24 HOUR CLOCK)

C6b. In total, how long did you play (the last time you played)?
(CONVERT TO MINUTES)

________________________________ minutes ___ ___ ___
(*CHECK: THIS CAN NOT BE LESS THAN C4D)

C7a. The last time you played, how many times did you do any of the following. First of all …

	# of times
9. Cash out	____ times
10. Let credits or money on the machine go down to zero before putting in more money or stopping	____ times
11. Take a break or stop temporarily to do something else	____ times
12. Switch machines	____ times

(IF TOTAL = 1 THEN GO TO C8A)

C7b. How long after you started play did you first do any one of these behaviours? **(i.e Which of these events happened first and how quickly did it happen?)**
(CONVERT TO MINUTES)

_______________________________ ___ ___ ___

IF C7b = C6b THEN GO TO C8A

C7c. **(CHECK C4d &C6b)** Of the ______ minutes you played, what was the longest period of time you continuously played the game without cashing out, or having the credits or cash go down to zero, or stopping play? **(PROBE: How long were you able to continuously play before you cashed out or went down to zero and had to put in more money) (RECORD IN MINUTES)**

_______________ minutes ___ ___ ___
***CAN NOT BE LESS THAN C4D &**
***CAN NOT BE MORE THAN C6B**

C8a. Was the total amount of time more, less or about the same amount of time you intended to play?

More	1	
About the same	2	___
Less	3	

C8b. On a scale of 0 to 10 where 0 means never (0 % of the time) and 10 means always (100% of the time), how often did you lose track of time while you were playing?

Never (0 % of time)										Always (100% of time)	
0	1	2	3	4	5	6	7	8	9	10	___

C9. Why did you stop playing?

_______________________________________ ___ ___

_______________________________________ ___ ___

_______________________________________ ___ ___

_______________________________________ ___ ___

C10a. When you finished playing were you …

Up any amount of money (won more than you spent out of pocket)	1 - **CONTINUE**	
Broke even (won back the same amount of money as you spent)	2 – **GO TO C10E**	___
Lost (spent more money out of pocket than you won)	3 – **GO TO C10C**	

C10b. How much money did you walk away with in addition to the amount you had put into the machine to play out of your own money? (How much money did you win not including the money you put into the machine out of your own pocket).

_______________ $ ___ ___ ___

C10c. How much money did you spend out-of-pocket (excluding winnings)?

________________________ $____ ____ ____

C10d. Is this amount more, less or about the same amount you intended or wanted to spend?

More	1	
About the same	2	____
Less	3	

C10e. On a scale of 0 to 10 where 0 means never (0% of the time) and 10 means always (100% of the time), how often while you were playing did you lose track of how much you were spending?

Never (0 % of time)										Always (100% of time)	
0	1	2	3	4	5	6	7	8	9	10	____

SECTION D

We are almost completed the survey I just have a few more questions to assist us in analyzing the information you have provided.

D1. Has anyone ever told you they were concerned with how much time or money you were spending on VL gaming?

YES	1	
NO	0	____

D2. Have you now or in the past ever felt you were having a problem spending more time and/or money playing VLT's than you should? **(READ LIST)**

YES - More Money	1 - **CONTINUE**	
YES - More Time	2 - **CONTINUE**	
YES - Both	3 - **CONTINUE**	____
NO	0 - **GO TO D4**	

D3. Have you solved your problem with VL play or is it still a concern for you? **(READ LIST)**

Completely solved	1	
Partially solved	2	
Still a problem	3	____

D4. In general, on a scale of 1 to 10 where 1 means your VL play is not at all a problem and 10 means your VL play is a serious problem, how would you rate your VL play right now?

Not at all a problem									Serious problem	
1	2	3	4	5	6	7	8	9	10	____

Demographics

Since you participated in the second survey with us in November 2001, has there been a change in any of the following circumstances for you.

D8a. First of all, has there been any change in your marital status?

No	0 – **GO TO D9a**
Yes	1-- **CONTINUE**

D8b. **IF YES**, what is your current marital status?

Single	1
Married/Cohabiting/Living with a partner	2
Divorced/Separated	3
Widowed	4

D9a. Has there been any change in your work status?

No	0 – **GO TO D12a**
Yes	1-- **CONTINUE**

D9b. **IF YES**, Which of the following best describes your current work status?

Working Full-time	1 - **CONTINUE**
Working Part-time	2 - **CONTINUE**
Unemployed	3 - **GO TO D12a**
Student	4 - **GO TO D12a**
Homemaker	5 - **GO TO D12a**
Retired	6 - **GO TO D12a**
Disabled	7 - **GO TO D12a**

D10a. What is your current occupation (i.e. the type of work you do)?

D12a. Has there been any changes in your annual household income -- that is your income from everyone in your household combined before taxes?

No	0 – **GO TO CLOSING STATEMENT**
Yes	1-- **CONTINUE**

D12b. **IF YES**, Which of the following broad income categories best describes your total annual household income (that is, everyone combined, before taxes)? **(READ LIST)**

Less than $10,000	1
$10,000 - $25,000	2
$25,001 - $35,000	3
$35,001 - $45,000	4
$45,001 - $60,000	5
$60,001 - $75,000	6
Over $75,000	7
Refused	8
Don't Know	9

___

CLOSING STATEMENT

On behalf of Focal Research, thank you once again for your participation. Your contribution to this important research is very valuable and appreciated.

You may receive a quality control check. My supervisor calls back 10% to 15% of all my completed surveys to ensure you were comfortable participating in our study and that I was doing my job properly. May I please confirm your telephone number?

____

TELEPHONE #: ________________________ DATE: ____________________

INTERVIEWER: ________________________ SUPERVISOR: ____________

DATA ENTRY: __________________ QCC: ____________

Again thank you for your participation in our research.

APPENDIX B – DEMOGRAPHIC TABLES

Table 2.19 – Demographic Profiles – By Play Of New Terminals & By Player Status (Wave 4 Only)

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
GENDER							
		NS		NS			
Male	**55%**	55%	55%	55%	58%	51%	53%
Female	**45%**	45%	45%	45%	42%	49%	47%
AGE							
		*		NS			
< 40 years	**31%**	33%	29%	38%	27%	31%	27%
40 to 49 years	**40%**	33%	49%	30%	40%	38%	60%
50+ years	**29%**	33%	21%	32%	33%	31%	13%
		*		NS			
Average age (years)	**45.0**	46.1	43.6	45.6	46.0	44.0	43.0
Median age (years)	**43.0**	46.0	43.0	43.0	45.5	42.0	43.0
EDUCATION							
		NS		NS			
High school or less	**60%**	55%	65%	55%	58%	64%	63%
Post-secondary/ Non-University	**30%**	33%	27%	34%	29%	23%	33%
University	**10%**	12%	8%	11%	12%	13%	3%
OCCUPATION							
		NS		NS			
White collar	**12%**	14%	11%	23%	8%	3%	13%
Grey collar	**17%**	14%	21%	17%	15%	23%	13%
Blue collar	**40%**	36%	45%	32%	48%	41%	40%
Income supported	**30%**	37%	23%	28%	29%	33%	33%
WORK STATUS							
		NS		NS			
Full time	**51%**	45%	57%	57%	50%	49%	43%
Part time	**19%**	18%	20%	15%	21%	18%	23%
Unemployed	**7%**	8%	7%	2%	8%	8%	13%
Retired	**12%**	16%	8%	17%	10%	15%	3%
Other (disabled, student, homemaker)	**11%**	13%	8%	8%	10%	10%	17%

NS = No significant difference; * = $p<0.10$; ** = $p<0.05$; *** = $p<0.01$

Table 2.19 – Demographic Profiles – By Play Of New Terminals & By Player Status (Wave 4 Only) - CONTINUED

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
% of Players	**100%**	**54%**	**46%**	**29%**	**29%**	**24%**	**18%**
HOUSEHOLD INCOME							
		NS		NS			
< $25K	**25%**	25%	25%	11%	25%	38%	30%
$25K - $45K	**40%**	39%	40%	47%	40%	33%	37%
> $45K	**28%**	26%	31%	34%	27%	23%	27%
Not answered	**7%**	10%	4%	8%	8%	5%	7%
MARITAL STATUS							
		NS		NS			
Single/Never married	**25%**	27%	23%	23%	23%	31%	23%
Married/Co-habitating	**57%**	57%	56%	64%	60%	49%	50%
Separated/Divorced/ Widowed	**18%**	16%	21%	13%	17%	20%	27%
CHILDREN IN HOUSEHOLD							
		NS		NS			
With children	**35%**	30%	41%	32%	33%	36%	43%
Without children	**65%**	70%	59%	68%	67%	64%	57%
AREA OF PROVINCE							
		*		NS			
HRM	**66%**	74%	57%	66%	67%	69%	63%
South Shore	**21%**	16%	27%	21%	27%	13%	20%
Northern NS	**13%**	10%	16%	13%	6%	18%	17%
AREA OF RESIDENCE							
		NS		**			
Urban	**85%**	89%	80%	94%	90%	74%	77%
Rural	**15%**	11%	20%	6%	10%	26%	23%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Table 2.19 – Demographic Profiles – By Play Of New Terminals & By Player Status (Wave 4 Only) - CONTINUED

		PLAY OF NEW TERMINALS		PLAYER STATUS			
	Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
OTHER VL PLAYERS IN HOUSEHOLD							
		**		NS			
% with ANY other VL players in the household	**46%**	38%	55%	45%	48%	41%	50%
		NS		NS			
% with other Casual VL players in the household	**20%**	16%	25%	19%	21%	15%	27%
		NS		NS			
% with other Regular VL players in the household	**27%**	22%	32%	26%	29%	26%	27%

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

Video lottery players who participated in all four waves of the research and continued playing VL games throughout the study:

- tend to be skewed towards males (55% versus 45% females);
- mainly fall into the 40 to 49 year age category (40%), with similar proportions under 40 (31%) as over 50 (29%). The average participant is 45 years of age;
- primarily have high school level education or less (60%);
- most are working full time (51%), while 30% are not part of the work force;
- those currently working outside the home are primarily employed in Blue Collar occupations (40% of players);
- approximately 40% live in households with mid-range income levels ($25K to $45K);
- majority are married/co-habitating (57%), and nearly two-thirds have no children living in the household (65%);
- mainly live in urban areas of the province (85%), primarily in Halifax Regional Municipality (66%);

- nearly half (46%) have another VL player in their household, either another regular monthly VL player (27%) or someone who occasionally plays VL games (20%).

Overall, there are very few demographic differences between those players who adopted play of the new VL machines with RGFs, and among players in each of the four CPGI problem gambling risk groups. Key differences include:

- Adopters tend to be slightly older on average, as they are more skewed to the middle age category (40 to 49 years: 49%), while Non-Adopters are evenly divided across all three categories;
- Adopters are more inclined to live in other areas of the province (43%) than Non-Adopters, most of whom live in HRM (74%);
- Adopters are more likely to have other VL players in their households than Non-Adopters (55% versus 38%);
- Players in the lowest risk groups (Low Risk, No Risk) are more inclined to presently reside in urban areas (90% to 94%) than those at Moderate Risk (74%) or Problem Players (77%).

Table 2.20 – Percent Of Demographic Category In Each Segment (Penetration Figures) – By Play Of New Terminals & By Player Status (Wave 4 Only)

			PLAY OF NEW TERMINALS		PLAYER STATUS			
		Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
GENDER								
			NS		NS			
Male	n=90	**55%**	54%	46%	29%	31%	22%	18%
Female	n=74	**45%**	54%	46%	28%	27%	26%	19%
AGE								
			*		NS			
< 40 years	n=51	**31%**	57%	43%	35%	26%	24%	16%
40 to 49 years	n=66	**40%**	44%	56%	21%	29%	23%	27%
50+ years	n=47	**29%**	66%	34%	32%	34%	26%	8%
EDUCATION								
			NS		NS			
High school or less	n=98	**60%**	50%	50%	26%	29%	26%	19%
Post-secondary/ Non-University	n=49	**30%**	59%	41%	33%	29%	18%	20%
University	†n=17	**10%**	†65%	†35%	†29%	†35%	†29%	†6%
OCCUPATION								
			NS		NS			
White collar	†n=20	**12%**	†60%	†40%	†55%	†20%	†5%	†20%
Grey collar	†n=28	**17%**	43%	57%	29%	25%	32%	14%
Blue collar	n=66	**40%**	48%	52%	23%	35%	24%	18%
Income supported	n=50	**30%**	66%	34%	26%	28%	26%	20%
WORK STATUS								
			NS		NS			
Full time	n=83	**51%**	48%	52%	32%	29%	23%	16%
Part time	n=31	**19%**	52%	48%	23%	32%	23%	23%
Unemployed	†n=12	**7%**	---	---	---	---	---	---
Retired	†n=20	**12%**	†70%	†30%	†40%	†25%	†30%	†5%
Other (disabled, student, homemaker)	†n=18	**11%**	†67%	†33%	†22%	†28%	†22%	†28%

† Due to small sample sizes (n<30, n>15), results should be viewed with caution.

NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

--- = Results are suppressed due to unstable estimates (n<15)

Table 2.20 – Percent Of Demographic Category In Each Segment (Penetration Figures) – By Play Of New Terminals & By Player Status (Wave 4 Only) - CONTINUED

			PLAY OF NEW TERMINALS		PLAYER STATUS			
		Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
HOUSEHOLD INCOME								
			NS		NS			
< $25K	n=41	**25%**	54%	46%	12%	29%	37%	22%
$25K - $45K	n=65	**40%**	54%	46%	34%	29%	20%	17%
> $45K	n=46	**28%**	50%	50%	35%	28%	20%	17%
Not answered	†n=12	**7%**	---	---	---	---	---	---
MARITAL STATUS								
			NS		NS			
Single/Never married	n=41	**25%**	58%	42%	27%	27%	29%	17%
Married/Co-habitating	n=93	**57%**	55%	45%	32%	31%	20%	16%
Separated/Divorced /Widowed	n=30	**18%**	47%	53%	20%	27%	27%	27%
CHILDREN IN HOUSEHOLD								
			NS		NS			
With children	n=58	**65%**	47%	53%	26%	28%	24%	22%
Without children	n=106	**35%**	58%	42%	30%	30%	24%	16%
AREA OF PROVINCE								
			*		NS			
HRM	n=109	**66%**	61%	39%	28%	29%	25%	17%
South Shore	n=34	**21%**	41%	59%	29%	38%	15%	18%
Northern NS	†n=21	**13%**	†43%	†57%	†29%	†14%	†33%	†24%
AREA OF RESIDENCE								
			NS		**			
Urban	n=139	**85%**	57%	43%	32%	31%	21%	16%
Rural	†n=25	**15%**	†40%	†60%	†12%	†20%	†40%	†28%

† Due to small sample sizes (n<30, n>15), results should be viewed with caution.
NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01
--- = Results are suppressed due to unstable estimates (n<15)

Table 2.20 – Percent Of Demographic Category In Each Segment (Penetration Figures) – By Play Of New Terminals & By Player Status (Wave 4 Only) - CONTINUED

			PLAY OF NEW TERMINALS		PLAYER STATUS			
		Total Players (n=164)	Non-Adopters (n=89)	Adopters (n=75)	No Risk (n=47)	Low Risk (n=48)	Moderate Risk (n=39)	Problem Players (n=30)
OTHER VL PLAYERS IN HOUSEHOLD								
			**		NS			
% with ANY other VL players in the household	n=75	**46%**	45%	55%	28%	31%	21%	20%
			NS		NS			
% with other Casual VL players in the household	n=33	**20%**	42%	58%	27%	30%	18%	24%
			NS		NS			
% with other Regular VL players in the household	n=44	**27%**	46%	54%	27%	32%	23%	18%

† Due to small sample sizes (n<30), results should be viewed with caution.
NS = No significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

As reported for demographic profiles of players in each segment (adoption and CPGI group), there are very few differences in the distribution of players in each demographic category among the segments (i.e., penetration). Both male and female players are similarly likely to have adopted play on the new machines, as are players in each education, occupation, work status, income and marital status category. The same is true for the distribution of players among CPGI risk groups. The only observed differences were by age, area of province, area of residence, and presence of other VL players in the household:

- those in the middle age category (40 to 49 years) are more inclined to have adopted play on the new machines (56%) than those who are either younger (43%) or older (34%).
- those living outside HRM are more likely to be playing on the new machines (57% to 59%) than those in HRM (39%).
- those residing in urban areas of the province are skewed towards low (32%)or no risk (31%) on the CPGI continuum, while rural residents are more likely to fall into the moderate (40%) or high risk groups (28%).
- those who reside with another VL Player are more likely to have adopted play on the RGF machines than those without any other VL players in their household (55% versus 38%).